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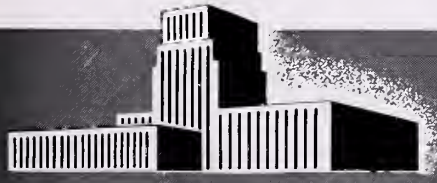

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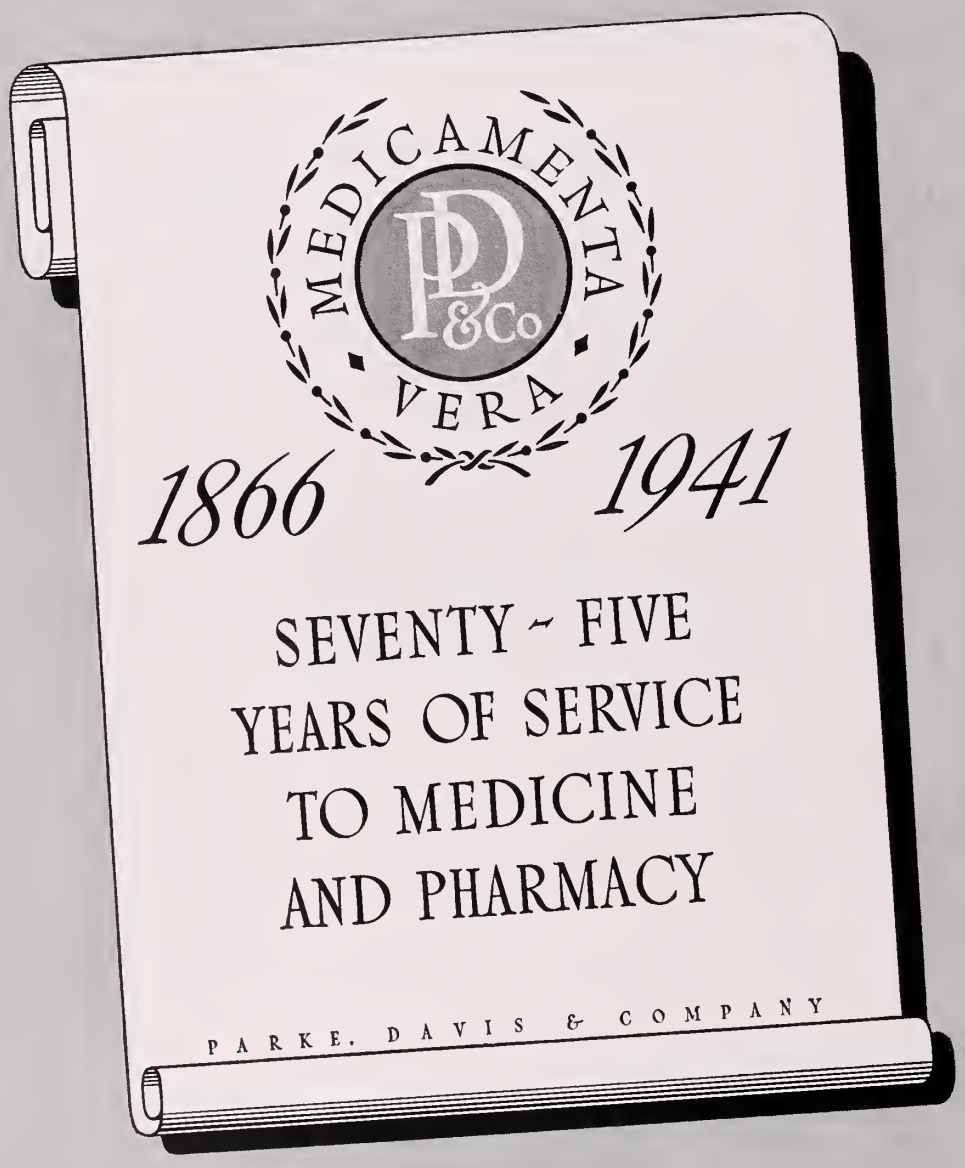
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● During the first decade of the 19th Century, Nicholas Appert, an obscure French confectioner, worked out empirically the basic principles of canning. In 1811, the first English edition of his book on the "Art of Preserving" was published (1). This text lays down the fundamentals of the canning process; it describes the necessary organization of a canning establishment and its equipment; and it lists canning procedures for more than 50 foods of both animal and plant origin.

Viewed in the light of modern knowledge, Appert's book is surprisingly complete and many of his observations amazingly accurate. Naturally, in the 130 years since his book was published, many advances have been made in canning technology. Consequently, when Appert's quaintly worded descriptions of the requirements for the use of his process are compared with those of modern commercial practice, some insight may be had as to the vast improvements which have been wrought in this important field of food preservation since its humble beginning.

One striking contrast between the old and new in canning lies in Appert's description of the necessary features of a canning establishment of his day. Appert's establishment apparently was composed of seven rooms or "apartments". Four of these were equipped to handle the preparation of fruits, vegetables, and foods of animal origin; the fifth room was devoted to the cleaning and storage of the glass bottles used as containers; the sixth room was the "sealing" room in which the bottles were corked after filling with food; the last room contained the large covered kettle in which the sealed containers were processed in boiling water.

The requirements for the modern cannery are, of course, much more exacting, both from the standpoint of factory site, arrangement, and equipment. Today, canneries must be located close to the fields, orchards, or waters from which the raw materials are harvested. Rapid handling of freshly harvested raw stock—a prime requisite for quality of the final product—is thus facilitated. The factory site must also be chosen so that an adequate supply of potable water is available. The modern canning plant is arranged specifically for handling the product or products that will be canned. This provides for continuous, rapid, and even flow through the various operations comprising the canning procedure for the particular product.

Needless to state, the equipment requirements of the modern canning factory are also much more complex than in the days of Appert. Present-day, large-volume production—necessary for the manufacture of a low-cost product—requires the use of high-speed automatic equipment for conveying the raw materials through the cleansing, preparatory, and all other operations of the commercial canning procedure. Frequently, much of this equipment must be constructed of special metals or alloys; in all cases it must be so constructed as to permit rapid, thorough, periodic cleansing. To maintain and control this highly specialized machinery, a skilled mechanical staff is necessary.

Space will not permit fuller description of other requirements for the cannery of today. Thousands of such factories combine to form the American canning industry, whose products already have become so essential in our modern civilization and in our national defense. Commercially canned foods have fulfilled every prediction of Appert by whose "extensive practice and long perseverance" a new means of food preservation was made possible.

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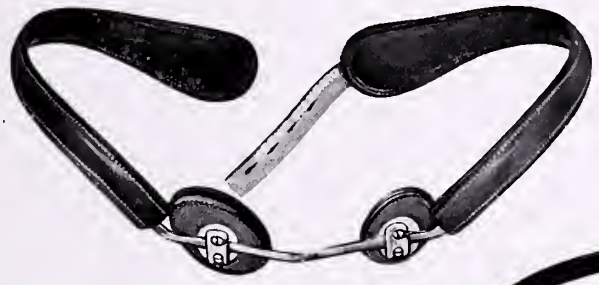

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THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV JANUARY, 1941 Number 1

OBSTRUCTED LABOR

GEORGE W. WATERMAN, M.D.
68 BROWN STREET, PROVIDENCE

Definition—Labor is spoken of as being obstructed when progress of the head through the pelvis has come to a standstill and when further progress by means of the natural forces seems impossible, or better perhaps, improbable.

Obviously there will be some disagreement as to what constitutes absolute obstruction, for, with time and moulding and adaptation of the fetal presenting part, a favorable outcome will sometimes occur in spite of marked pelvic abnormality or cephalopelvic disproportion. Only long and extended experience can teach one to judge whether further progress without interference can be expected, and thus point out proper indications for interference. It is not always necessary to have long experience in hospital work to be able to diagnose obstructed labor. Any man who delivers a sufficient number of patients can attain a good working knowledge along this line, if he will study his cases carefully. Anyone who will observe normal labor, make sufficient aseptic vaginal examinations during labor so that he can distinguish the bones of the fetal head, find and recognize the fontanelles and suture lines by palpation, and then observe how the position of these landmarks changes as the head moves through the pelvis, will know the normal mechanism and be able to recognize the abnormal. This is the first step in his education and is the all essential one.

Now when the abnormal or unusual mechanism occurs he will find that his landmarks vary; the anterior fontanelle may descend on a level with or below the posterior, indicating that the head is poorly flexed. Early discovery of this fact will put him on his guard as signifying some abnormal factor. The posterior fontanelle may be in the posterior pelvis or pointing toward the side wall, i.e. transverse position, or the saggital suture may be lying transversely across the pelvis instead of obliquely, with one or the other parietal bones presenting instead of the occipital bone—indicating that the baby's head is not entering the pelvis directly but that there is lateral flexion, so-called asynclitism. This condition usually indicates a flat or android type of pelvis.

The mechanism of labor observed in the occiput posterior position must obviously be a different one from that in the anterior positions. It is more difficult because the occiput must rotate anteriorly to be born, if the favorable sub-occipito-bregmatic diameter of the baby's head and not the long occipito mental diameter is to engage at the introitus. One should follow the process of this rotation in cases which deliver spontaneously, try to observe at what level the rotation occurs, how long it takes to rotate, where the head is longest delayed, and what causes the delay. One finds that the head does not always rotate at the same level; in some cases it rotates above the ischial spines, in others it must come far down to the outlet so that the perineum is on the stretch and the caput is crowning before rotation will occur. In still other cases the occiput rotates to the hollow of the sacrum and cannot descend further because of protruding ischial spines. One must learn to recognize this condition, for all that is required is to push the head up a little, rotate either manually or by forceps and deliver easily as an anterior position. Yet again the occiput may remain posterior and because of transverse contraction of the pelvis, as in the anthropoid type, deliver as a persistent posterior, rotation at any level being impossible.

The mechanism of the transverse engagement and descent of the head seen so often in the android or male type of pelvis or in the flat pelvis has been observed and written about for many years. Here the available conjugate diameter is shortened so that the longest pelvic diameter is the transverse. If the conjugate diameter is borderline the smallest diameter of the fetal head, i.e. the bitemporal, will attempt to engage it, thus forcing the longer biparietal diameter off to the side. The occiput thus

comes against the side of the pelvis and is held up resulting in deflexion and allowing the sinciput to sink into the opposite side. Progress is slow. Gradually, if arrest does not occur, the head sinks into the pelvis, the occiput coming down only after the sinciput has reached the pelvic floor. Here in cases which resolve spontaneously the occiput finally descends until low enough to rotate and escape under the pubic ramus and be born. This is one of the common difficult mechanisms and should be carefully studied by the one who would attempt forceps interference. Likewise in the deflexion attitudes of the head one should study the mechanism by examinations throughout labor, know the normal course of progress. The mechanism of face presentation which resolves without interference is one of extreme extension, the occiput lying back on the cervical vertebrae, the chin far forward. After long labor with extreme moulding in hyperextension the chin can escape and be born or perhaps it may rotate posteriorly and increase the difficulty. Without this fundamental knowledge of normal and abnormal labor mechanism, one will obviously be working in the dark. Perhaps one will be able to put on the forceps and may even get them on correctly. If when one exerts traction and the baby's head does not move, however, what will he do? He can persist and by great traction and muscular force drag the baby's head through the pelvis in a diameter through which it could not be born if left to itself and which is entirely foreign to that required for the situation. This policy will result in disaster for the baby and perhaps in terrible injury to the mother.

If one is properly prepared, knows his landmarks, makes a good diagnosis of what is happening and of the type of mechanism with which he has to deal, then his operation is by just so much simplified. One makes an accurate application and knowing much about the mechanism required he with great gentleness and the minimum of force guides the head through the most favorable path, advancing the head to a lower level where rotation may be easier in some cases, pushing it upward and rotating before using traction in others. As there are many variations in the size and shape of the planes of the maternal pelvis at its different levels, and as there are also variations in the type of moulding and engagement of the fetal head, so there will be many variations in the mechanism or method by which the head must adapt itself to the pelvis. The good operator will recognize this fact and carefully and gently guide the head accordingly. If his previously conceived notions of how he should apply traction or rotation do not seem to work and progress stops, he certainly should not resort to brute force as the way out, but should try another direction. If failure occurs with the occiput anterior, more room is often found in the posterior quadrants or in the transverse and a shift of direction will often greatly simplify the delivery. Where the head is arrested in transverse in poor flexion and the natural forces do not seem sufficient to bring the occiput low enough to escape under the pubic ramus, apply the Elliott forceps in the reverse of the usual position, i.e. instead of the usual occiput in the concavity of the forceps curve have the pelvic curve of the forceps toward the baby's face. Now if axis traction is made the line of pull will be such that flexion is favored, the forceps passing in their widest point of separation over the parietal bosses of the head. The occiput will be pulled down, usually with ease, to the pelvic floor and will then rotate forward and be delivered with forceps upside down or by removal and reapplication of forceps. This manouver has been very useful in treatment of the transverse arrest.

As an aid in diagnosis of size and shape of the pelvis the stereoscopic X-ray can be of great value and is so proving to those who are properly familiar with it. The decision to perform Caesarian section on X-ray findings alone is, however, bad, for the X-ray picture gives us no idea of the adaptability of the particular fetal head to the particular pelvis. We still have babies delivered normally through pelves which look very treacherous before a proper trial of labor proves them not to be. Unless the indication is absolute, therefore, a trial is in order. To conduct this trial we come back to first principles, a knowledge of how the head engages and how it finds its way through the difficult pelvis. Only by constant and careful observation hour by hour, with experience of many examinations during labor, is this knowledge obtained, but once one opens his mind and gives time and thought to it there is no more fascinating or worth while study in medicine or surgery.

To my way of thinking the conduct of labor, and particularly borderline or difficult labor, must always remain an art. Surely it is unreasonable to think that any mechanical formula can tell us the way to manouver a baby's head through and out of a mother's pelvis with least possible injury to either.

MANUAL REMOVAL OF THE PLACENTA

A TWELVE-YEAR STUDY

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It has been repeatedly stated that removal of the placenta manually is an extremely dangerous procedure. A number of reports testify to the high morbidity and mortality, and especially the high sepsis rates. The most extensive series was published in 1927 by Heidler and Steinhardt from Kermauner's Clinic at Würzburg. In 1000 cases of manual removal they found a gross mortality rate of 8.02 per cent. After making every possible deduction, they found that one woman out of every fifty died as a direct result of the operation. Other reports give mortality figures ranging from 2 to 28 per cent. In 1912 Alletsee stated that 81 per cent of his cases were in multiparae, and that in 10 per cent there was a history of previous manual removal. In Goethal's series of 170 cases, published in 1923, he found the high incidence of one in forty-eight hospital deliveries. In most reports the incidence is lower, down to one in 312 reported by Hirst in 1918.

A gross morbidity rate of 54.95 per cent was found by Peckham reporting on 186 cases from the Johns Hopkins Hospital in 1935. He, for the first time, compared the cases of manual removal to a general clinic population, noting the effects of certain predisposing factors.

According to Williams, in most cases the term "adherent placenta" is a misnomer, except in a few instances in fibroid uteri or cornual implantations. He states that the interference with expulsion is usually due to abnormalities in uterine contractions rather than to abnormal adhesions between the placenta and the uterine wall.

Adair has recently discussed at length some of the factors influencing placental separation and interfering with expulsion. He noted that prematurity, primary or secondary inertia, rapid or operative deliveries, prolonged labors, and overdistension of the uterus may delay separation. Uterine tumors, toxic or infectious states may cause disorders. Abnormal adherence may be due to endometritis, nephritis, abnormal placental site or unknown factors. Uterine atony or spasm may interfere with expulsion.

In this paper I have attempted a study of some of the foregoing topics and of some others that appear to play a part in this problem.

Incidence

During the past twelve years at the Providence Lying-In Hospital, from May 1, 1928, to April 30, 1940, there have been 158 cases of manual removal of the placenta. Of these, 154 were delivered in the hospital, four were admitted for the operation following delivery in the patient's home by a private physician. In this same period, there were 31,831 deliveries of viable infants in the hospital, an incidence of manual removal in hospital cases of 0.48 per cent or one in 208. No case has been included that had not reached the seventh month of pregnancy.

It is to be noted that while the incidence of operative deliveries for the hospital generally averages 18 per cent, in the cases of manual removal it was 38 per cent.

Suggestive Predisposing Factors

A study of the obstetrical history of these patients throws some light on the type of case in which an abnormal placental mechanism is likely to occur. In 51.8 per cent there was a history of obstetrical pathology, local or constitutional, in the immediate or preceding pregnancies. For example, in 26 per cent it was stated that there had been one or more abortions, spontaneous or induced, which is just twice the incidence found in a control group. A manual removal had been performed in seven previous term labors (4.43%), an incidence nine times that for this hospital.

In 30.8 per cent the immediate pregnancy was abnormal. There were nineteen premature labors (12.0%), an incidence about three times that we usually encounter. The frequency of antepartum fetal deaths (7.0%) was about seven and one-half times the usual incidence. The occurrence of all types of toxemias averages 3.6 per cent in this hospital, while in this series it was 16.5 per cent, four and one-half times greater. There were six cases of placenta previa of all types, and two of premature placental separation. Syphilis did not occur with greater than usual frequency.

From the Providence Lying-In Hospital.

Read before the one hundred and twenty-ninth Annual Meeting of the Rhode Island Medical Society, Obstetrical Session, Providence Lying-In Hospital, June 5, 1940.

The author is indebted to Dr. Bertram H. Buxton, Chief of Staff, for permission to use the hospital records.

During labor there often come into play factors which lead to exhaustion and hence to abnormal uterine action in the third stage. In 34.8 per cent one or more of these factors appeared to play some part. In seventeen the labor was definitely prolonged, that is, over thirty hours. Maternal exhaustion was an indication for operative delivery in eleven instances. In twenty-four a long and difficult obstetric operation with its long anaesthesia was necessary to effect delivery. Primary or secondary uterine inertia was noted in six cases. It is in just such atonic, exhausted uteri that inefficient placental separation and expulsion are liable to occur.

Indications

The indications for manual removal of the placenta, as stated in the records, fall under three heads: hemorrhage most often (61.4%), retention second (35.7%), and the condition of the patient or uterus last (2.9%). The figure for retention is high, compared to other series where it is as low as 2 per cent. In this hospital it has been customary to wait for one hour before contemplating manual removal, whereas many others wait a longer period. Furthermore, in most of these cases of retention several additional valid reasons were stated, so that retention alone as an indication was found in only 7 per cent. It is obvious that the morbidity will be lower where manual removal is performed for simple retention than when done to terminate a complicated situation or control hemorrhage.

Clinical Findings

In several cases the exact blood loss after delivery could not be determined, but in 45 per cent there was postpartum hemorrhage of 500 cubic centimeters or more. This is about thirty-five times the hospital average, which is only 1.3 per cent.

In thirty-eight cases (24.0%) the uterus showed a greater or lesser degree of atony, not usually improved by pituitrin, and accompanied by a high incidence of hemorrhage.

The duration of the third stage varied considerably, in one case lasting forty-eight hours before admission. However, in only 13.9 per cent of the total number was it more than two hours from delivery to manual removal.

In only three cases was the placenta found to be densely adherent, requiring careful but forceful dissection to separate it from the uterine wall. But in ninety-three (58.9%) it was stated to be partially adherent or not completely separated, yet came away with very little effort. It seems likely, as suggested by Williams, that these were not truly adherent, but merely had failed to separate completely because of uterine dysfunction or inadequate time. A study of these cases bore out this contention.

In twenty instances the placenta was found completely separated but retained or incarcerated. In one-half of these there was a tight ring of spastic uterine muscle located usually at the junction of upper and lower uterine segments, or at some point higher in the corpus. In twenty-nine other cases there were encounterd contraction rings which doubtless played a rôle in hindering separation. There is suggestive evidence that the use of pituitrin at the end of the second stage may result in the formation of contraction rings. In this series, all of those that followed its use have occurred in the last three years during which pituitrin has been used almost routinely. Most authorities state, however, that there is no increased incidence of placental incarcerations as a result of its use after the second stage.

In only twenty cases was Credé attempted, but without success. In a few it was tried repeatedly. The danger of Credé expression, too early and too frequently employed, with its resulting atony and partial separation, was illustrated in a number of these cases.

Morbidity

The gross puerperal morbidity rate was 32.3 per cent, over six times the hospital average of 5.0 per cent. When manual removal was the only operation, almost one-third of the patients (29.6%) developed a puerperal infection, illustrating the increased hazard to which this procedure subjects them.

Of the forty-nine puerperal infections, one-third were severe, including one case of sepsis with death, four with thrombophlebitis, two pulmonary infarctions, and three with pelvic peritonitis or cellulitis.

The morbidity was much higher in those cases where packing of the uterus was employed following manual removal. More than half of the patients (52.2%) developed puerperal infections. It was noted that in ten of the cases the packing was not employed on its own indications, but as a routine procedure following manual removal, although the bleeding was moderate in amount.

The importance of a thorough and complete removal of the placenta is well illustrated by twelve cases in whom a fragment of moderate size was accidentally left behind. The morbidity in this group reached the very high figure of 83.3 per cent and most of the infections were severe and prolonged. A secondary curettage to control delayed hemorrhage during the puerperium was necessary in three patients.

Mortality

In the entire series of 158 cases of manual removal of the placenta there were two maternal deaths, giving a gross mortality rate of 1.27 per cent. A brief résumé of these two cases follows:

No. 10490. A normal twenty-two year old primipara, at term, became exhausted after only nine hours of labor. A one and a half hour second stage was terminated by a difficult manual rotation and mid-forceps delivery. She took the anaesthesia poorly with persistent marked cyanosis. The ensuing shock was treated with fluids and morphine. Manual removal of the placenta was easily performed after Credé failed. The blood loss was slight. She developed pulmonary edema which became progressively worse and she died six and a quarter hours after delivery. A post mortem examination revealed nothing but the edema of the lungs. This death is clearly not due to the manual removal.

No. 13645. A twenty-six year old multipara, eight months pregnant, was admitted with moderate painless bleeding. Spontaneous rupture of the membranes was followed by intrapartum infection with temperature elevation to 102.4°. Medical induction was followed by dragging labor, with loss of fetal heart and development of uterine inertia. Decapitation and extraction were necessary because of an impacted shoulder presentation and tight constriction ring that failed to relax. An immediate manual removal of the placenta was done because of profuse hemorrhage from an atonic uterus which was packed. A severe sepsis developed at once and persisted to death on the fiftieth day postpartum. Blood cultures were positive for streptococcus viridans. There was no post mortem examination. This death was indirectly due to manual removal of the placenta.

The corrected mortality rate, not including the first case, is 0.63 per cent.

Discussion

As we have seen, a number of preventable and non-preventable factors may adversely influence uterine function after delivery, yet the proper conduct of the third stage remains our best safeguard against complications. Haste and poor judgment too often lead to interference with the placental mechanism, producing partial separation and hemorrhage, necessitating manual removal for its control.

Hemorrhage is the most frequent indication for removal, and in special situations, such as placenta previa or premature separation, where the control of bleeding is urgent, should not be too long delayed. We have noted that retention alone is not a frequent indication for manual removal and that true adherence is the exception rather than the rule. Common practice has established at least two hours as the minimum waiting period before manual removal providing the patient is in good condition and bleeding is not more than 500 cubic centimeters. During this period the uterus should be controlled, but massage or other manipulations are to be avoided unless to control bleeding or combat relaxation. Simple expression should not be employed until the signs of separation are plainly evident and only when the uterus is firmly contracted. If this fails and it is necessary to evacuate the uterus, Credé may be attempted but not oftener than every fifteen minutes, realizing that it may do more harm than good. Not infrequently, deep anesthesia, adrenalin, or catheterization of a distended bladder will obviate the necessity for invading the uterus. After all conservative measures have failed manual removal may be resorted to, maintaining scrupulous asepsis.

A procedure that subjects the patient to the hazards we have noted is not to be too readily undertaken. Only when the indications are urgent and clear-cut should it be employed. That the placenta should be inspected for complete removal is evident from the increased morbidity and danger of delayed hemorrhage associated with retained fragments. Packing should not be employed routinely but performed only when the indications for its use are separate and distinct.

Conclusions

1. The incidence of manual removal of the placenta at the Providence Lying-In Hospital during the past twelve years was one in 208 cases.

2. Certain obstetrical complications in pregnancy seem to predispose to third stage difficulty.

3. Patients with long exhausting labors or difficult operative deliveries often require manual removal of the placenta.

4. The indications for manual removal were hemorrhage, retention, and the patient's condition, with hemorrhage most common.

5. The gross morbidity rate was 32.3 per cent, over six times the hospital average. Failure to completely remove the placenta and packing increased the morbidity rate to 83.3 per cent and 52.2 per cent respectively.

6. The gross maternal death rate was 1.27 per cent and the corrected rate 0.63 per cent.

7. A policy of non-interference except where clearly indicated will reduce the necessity for manual removal.

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METASTASES OF THE SCALP SIMULATING TURBAN TUMORS

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Ronchese reports a case of unusually extensive metastases to the scalp from a carcinoma of the prostate. The case is interesting because of the rarity of metastases to the scalp and because of the extreme rarity of the occurrence of a very large number of tumors grouped in one area of the body while practically none were located on the rest of the cutaneous surface.

The case is also interesting because of the striking similarity to turban tumors, both clinically and histologically. To this regard, Ronchese recalls a previous study of the subject (Multiple Benign Epithelioma of the Scalp-Turban Tumors — A. J. Cancer, 1933). To the thirty-one cases gathered in 1933, thirteen more are added. The pathology of this strange and little known condition of the scalp is again discussed.

TRAGEDIES AND CALAMITIES OF SURGERY

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In 1868, Sir James Paget delivered before a classroom of students at St. Bartholomew's Hospital in London, a lecture on the "Calamities of Surgery." This lecture was published in 1875 by D. Appleton and Company, New York, along with other lectures and essays, in a book entitled "Clinical Lectures and Essays." The following are some extracts from this lecture:—

"Two cases have occurred during the last week which lead me to speak to you about what may be called the calamities of surgery, a subject of great interest which you had better begin to study in early life, for the study of it, if deferred to later life, only leads to reflections which are useless and distressing.

"Last Friday a patient died under the influence of chloroform. It was given with all customary care and there is nothing in all the circumstances to which we can refer that would imply that any thing was left undone that ought to have been done. In the morning I had advised the chloroform for this patient whose hand had to be put straight in order to avert the deformity that was being occasioned by disease of the wrist joint. In the afternoon my house surgeon and a dresser were giving it, the pulse suddenly failed and the patient sank and died. The friends would not allow a post-mortem examination so the case affords us no useful information. But the fact that I want you to keep in mind is that notwithstanding all care and all good intention, surgery shortened to a few minutes this woman's life that might have lasted many years. At the very worst she would have gone about for the remainder of her life with a crippled hand, but she might have lived to a good old age. She died and died without any warning of her danger.

"This is one of the calamities of surgery. It is one of the many cases that lead one to wish that something might be discovered or invented which would combine what I believe was the greater safety of sulphuric ether, the first and original anesthetic, with what is the far greater convenience and facility of administration of chloroform. But till that substance is discovered we shall have to proceed in

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surgery with uncertainty; or rather with certainty that occasionally we cannot tell when some one whose life we are trying to prolong or ease will die and die by means that we use to save him from pain.

"The other case was that of a man on whom I operated for removal of the head of the humerus. He came, you will remember, with his right arm almost completely useless and often very painful because of an unreduced dislocation at the shoulder. The dislocation had been unreduced for, I think, eighteen months and there was no hope of replacing the bone by any ordinary means. The man himself was urgent that the arm should be made in some measure more useful and less painful than he now found it, and accordingly we decided on what seemed to be the only thing for his relief, excision of the head of the humerus, which by pressure on the brachial plexus appeared to cause the pain. I did that operation and a few days after it, pyemia set in and in a few weeks the man died. There were many circumstances in this case to diminish the rebuke that one was bound to inflict upon one's self. The man was exceedingly urgent for the operation, out of sheer wilfulness and obstinacy he refused for a time all careful nursing and absolutely refused his food and so diminished greatly his chance of recovery. Nevertheless, the fact remains that but for the operation this man might have lived for many years, he would have lived with an only partially useful right arm, but he would have lived and been able to work and would have done some good for himself and others, but because of the operation instead of living many years he died in three weeks.

"Cases such as these ought to be very honestly considered by us all; for I venture to say that there is no surgeon in large practice, no surgeon to a large hospital who has not once or more in the course of his life shortened patients' lives when he was making attempts either to prolong them or to make them happier. And this, you will observe, is not merely the case with capital operations. When a patient submits to a large operation it is always for the remedy of something that will render his life either very miserable or very short and to escape so great distress, it is quite fair that a man should run great risk of his life. But these calamities occur however rarely in comparatively trivial cases; when the operation is not done for any consideration of prolonging life but, it may be, of making life somewhat happier or somewhat more useful as in the amputation of a finger, the tapping of an ovarian cyst, the tapping of a hydrocele, the division of a cervix uteri, the ligature of a pile, the division of a fistula, the removal of a small tumor from the face or scalp. I have known deaths from all of these and if you were to go over the whole list of so-called minor operations, you would find that every surgeon of much experience has either had in his own practice or known in that of others, one or more cases of each that have proved fatal. If any man will remove with the knife, in a hundred instances, cysts from the scalp, I will venture to say that he will have one or two deaths. If any man will take in succession an equal number of cases of ligature of hemorrhoids, the probability is that he will have one or two deaths. It is not necessary however that I should recount all these operations to estimate the average mortality of each, that which is most important for you to understand is that, without very great care, you will certainly lose patients after minor operations and be severely blamed for the loss.

"Moreover, these deaths, though they are the worst are not the only calamities that ought to be reckoned as calamities of surgery. We ought to add to the list all those cases in which operations for comparatively slight diseases are followed by very serious illness or by permanent damage greater than the disease as when the removal of a finger leads to cellular inflammation of the hand and permanent stiffness of some part of it or when after circumcision sloughing ensues or after the removal of a scalp cyst dangerous erysipelas.

"The consideration that you are liable to these calamities should be an incentive to the most earnest and continual study of your profession, that you may avert all avoidable ignorance; and to constant discipline in watchfulness that you may overlook nothing that can contribute to a patient's welfare.

"And you should study carefully all of what are called the minor parts of your profession. Minor they may be with regard to each instance in which they have to be practised; but they become major if you multiply those instances together. I refer chiefly to the necessity of cultivation skill in dressing wounds, in the completion of operations, in the looking to all the seemingly little things that, after an operation, minister not only to a patient's comfort, but to his welfare. Among the cases that I have to regret is one in which a patient of mine died from a piece of plaster being put on in the wrong direction. A young man had a tumor removed from

deep in the back of his thigh; and at the end of the operation I know not whether by myself or some one else, a broad strip of plaster was put around the thigh, completely encircling it and over that, for some further means of security, a bandage. Next day the limb was swollen, but apparently not much more than it might have been swollen from ordinary inflammation following an operation. But, the day after, the limb was swollen much more; and the day after that there was acute inflammation of all the cellular tissue about the wound; and then came hemorrhage; and then the man sank and died. The sole cause of his death was the strip of plaster which was put round his limb and not removed for two days. From that time to this, I think no one has ever seen me put a strip of plaster around a limb, unless spirally. Small as such a thing may seem in the art of dressing, it cost the man his life. I tell the case that I may in some degree atone for the fault by hindering you from incurring the same risk. Attend then carefully to what are called the minor things of surgery; not merely to skill in operations, large or small; learn the habit of entering completely and fully into everything that may minister to the safety and comfort of the patient."

It is interesting to continue with the following foot-note to the above lecture. "For the last two years I have used only sulphuric ether or, for short operations, nitrous oxide gas or ether spray. The inconveniences of the ether are remedied by Mr. Clover's method of making the patients insensible with nitrous oxide and then giving the ether. The risk and calamities of operations have been reduced even during the few years since the foregoing lectures were given, but they still are too many and too great and I venture to hope that the lectures may help in still further reducing them."

Sir James Paget was a brilliant surgeon, a man of keen foresight, and an inspiration to all who were fortunate enough to be associated with him. His lecture on the "Calamities of Surgery" is a masterpiece. Seventy-two years have elapsed since the lecture was delivered. The surgeon of today has at his disposal laboratories which perform for him numerous and varied tests on the urine and blood. He has the electro-cardiogram and X-ray to further help him in determining the fitness of a patient for operation. The blood pressure machine and thermometer play their part also.

Our patients are prepared for operation with various drugs for sedation which are given preoperatively. They are given blood, glucose and saline intravenously if they are anemic or their fluids depleted. We attempt to combat shock with all methods available to us. If shock occurs in spite of our most rigid preparations we give more blood and solutions intravenously. We have many drugs which also are used. We have such varied armamentaria as Levine tubes, Miller-Abbott tubes and others to combat dilatation of the stomach and paralytic ileus, bronchoscopes to remove plugs of mucous from bronchi, sulfanilamide to arrest streptococcus infections, sulfapyridine to arrest pneumococcus infections, insulin to combat diabetes mellitus, serums to abate tetanus and gas gangrene. All the above mentioned methods, instruments, procedures and drugs help us to aid more of the patients who come to surgery. In spite of all this we still have our tragedies and calamities. I will endeavor to detail those that have come to my attention in my nine years practice of surgery.

Anaphylactic Shock

A boy ten years old had a gunshot wound. He was given tetanus antitoxin. The wound was cleaned and dressed by his family physician. About ten days later he was seen with a severe infection of the hand with cellulitis extending up to his shoulder. The story of gunshot wound was elicited but no story was obtained of his having received tetanus antitoxin. He was given a second dose of tetanus antitoxin without the preliminary test for his sensitivity to horse serum. The youngster died of anaphylactic shock before aid could reach him.

A laborer sustained a bruise of his foot from falling cobblestones. His wound was dressed by his family doctor. Approximately a week later he was admitted to the Rhode Island Hospital Out-Patient Department with a black gangrenous foot, generalized rigidity and fixed jaws. He was admitted to the main hospital and given extensive tetanus treatment but died in five days. A man working in a road gang should have received prophylactic tetanus antitoxin.

A man forty-five years old apparently in excellent health had a simple cholecystectomy done. His condition was good following the operation but as it was thought he was not taking sufficient fluids he was given an intravenous saline infusion. This was followed by extreme chills, shock and death in two hours. An autopsy was not performed. Investigation proved that he died from impurities in the solution.

Anesthetic Accidents

A somewhat feeble, emaciated male of sixty had a small cancer of the lower lip. It was decided to excise the growth under evipal anesthesia. A minimum dose was given intravenously, administered slowly. Before two-thirds of the dose was administered the patient became unconscious, cyanotic, pulseless and in spite of all the stimulating drugs we administered, his respiration ceased. This operation could have been done under local novocaine block.

A woman forty-six years old, in apparent good health, came to me for operation for hemorrhoids. She was given nitrous-oxide-ether anesthesia. When I commenced to dilate the sphincter in preparation for the hemorrhoidectomy I was told by the anesthetist that the patient was pulseless and that respiration had ceased. She could not be revived. A post-mortem examination was performed. The cause of death was given as pulmonary collapse.

A man with an extensive epithelioma of the hand was prepared for excision of the cancer and for skin graft. It was decided that ether was the anesthetic of choice in this case. Delayed by a long stomach operation we did not get to his case until about 12:30 P. M. The patient was given nitrous oxide followed by ether. During the ether induction he commenced to vomit. He inhaled his dinner and drowned in his food. Investigation proved that he had been given an ether breakfast which consisted of no breakfast. Since dinner time had arrived and there was no order for withholding dinner, he was given his dinner. Having been without breakfast he must have been hungry and ate a most hearty meal. Between the time when he had partaken of his food and the time he was called to the operating floor, the nurse who had given him his dinner had departed for the nurses' dining room for her own dinner and no warning was sent to the operating room. A case of pure carelessness.

A young woman forty-five years old, with an acute upper respiratory infection, was suffering with acute cholecystitis. An operation was deemed urgent. Because of her reddened throat, running nose and slight cough it was decided that spinal anesthesia was the choice in this case. She was given 150 mg. of pontocaine spinally. She weathered the operation beautifully but the day following operation, developed paralysis of her legs. The paralysis ascended to involve the respiratory center. She was in a Drinker respiratory for five weeks and then expired. No autopsy was obtained in this case. She died, without doubt, from sequelae of spinal anesthesia.

An elderly man suffering from empyema was booked for a thoracotomy under local anesthesia. Enroute to the operating floor he became cyanotic and died before help could get to him. We were fortunate in obtaining a post-mortem in this case. In the morgue it was found that his upper set of false teeth was jammed tight in his posterior pharynx causing complete obstruction. Because he was to have a local anesthetic his false teeth were not removed on the ward. The exertion of getting on the truck which was to carry him to the operating room caused his plate to become dislodged.

Operative Accidents

A tiny Jewish woman seventy-two years old had all the signs of intestinal obstruction. Her abdomen was immense. The diagnosis of ovarian tumor was made. An emergency oophorectomy was done in great haste because the patient was extremely weak. A tremendous tumor weighing some fifty-four pounds was removed. The patient never awakened from her ether anesthesia, remaining unconscious for about seventy-two hours until her death. She excreted no urine from the time of her operation. Cystoscopy was done and an attempt made to catheterize her ureters. The catheters entered the ureters on either side but met with obstruction and did not go very far into the ureters. No urine was found in her bladder. Another operation was deemed inadvisable. While no post-mortem was obtained in this case I feel that her ureters were tied off in the haste of the operation.

Speaking of haste making waste brings to mind two cases in which I was giving ether. One case was that of a young man of thirty who had a gangrenous appendix removed at operation. The operator accidentally cut into small bowel on entering the peritoneum. Because the appendix was in bad condition the incised gut was closed over with only a single layer of fine silk and the appendix was immediately removed. The wound was just as hastily closed up tight. He died of general peritonitis in eight days. At autopsy the perforated small gut was found wide open pouring out its intestinal contents. The other case was that of a woman about forty-five years old who was said to have an inguinal hernia. The surgeon had difficulty in finding the hernial sac but finally decided that a piece of tissue he grasped in his forceps must be the sac. Incision was rewarded by exodus of large quantities of

feces. He had cut into the sigmoid. The sigmoid was rapidly closed with three layers of sutures but the b. coli had in the interim spread far and wide. The patient expired. No post-mortem was obtained in this case. My guess would be that this was a death due to peritonitis.

From the time of my first operation I have been cautioned by my teachers to be careful about incising the urinary bladder. In turn, I have since cautioned my pupils of the same danger. One of my internes rebuked me by saying that this never could happen. The very next day he was doing an inguinal hernia. He was very much surprised when urine spurted after he had made an incision into what he thought was the hernial sac. He reddened and was chagrined by this avoidable accident.

Coronary Thrombosis

When we are considering tragedies of surgery in this day and age we must not overlook coronary thrombosis following operation. I have seen three such cases. The first was a man in his sixties who was known to have had attacks of angina pectoris over a number of years. He had attacks of cholecystitis associated with jaundice. He survived three attacks without operation. The final attack was severe. He had exquisite pain, jaundice and fever. Cholesystectomy was performed. His condition was good until forty-eight hours after operation when he was seized with severe vise-like pain across his chest and died promptly. The second was a man fifty-seven years old with a peri-nephritic abscess which was incised and drained. He did beautifully for three days, then died with what looked like a typical coronary attack. The third was a man of fifty-six who had a perforating gastric ulcer, with severe nocturnal pain. The operation was deemed necessary. He was a number two risk. He had no attacks of angina that we knew of. He died on the third day post-operatively of what certainly looked like a typical coronary thrombosis.

Hemorrhage

Post-operative hemorrhage is another tragedy which we must consider. In the days of Paget, post-operative hemorrhage was primarily due to sepsis. Post-operative hemorrhage today is due to carelessness or accident. I have seen six such cases.

The first case occurred following an operation for removal of the uterus and the appendix. Two hours after operation the patient's condition was reported as being poor. From this time until fourteen hours after operation she had three intravenous infusions of glucose and saline without any apparent benefit. A transfusion was next done. This rallied her a bit, then it was decided that the condition was only shock. She was given morphia and proceeded to have a good night's sleep. The following day her blood pressure was still zero, her pulse rapid, she had air hunger, and finally died. Post-mortem showed a ligature slipped from one of the ovarian arteries.

In another case the ligature slipped away from the renal artery after removal of a kidney. The third case occurred in a man seventy-two years old following a transurethral prostatectomy. A vessel somewhat out of view of the cystoscope was cut. Blood clouded the view so that the bleeding vessel could not be fulgurated. Suprapubic cystotomy was out of the question. Bleeding was controlled by a special catheter which has a rubber balloon on the end of it. This was inserted into the bladder and filled with saline. Three blood transfusions about two hours apart saved this man's life.

Another case was that of a girl in her twenties who had bleeding following a presacral resection. Operation with control of the hemorrhage saved her life.

The fifth case was that of a woman in her early forties who had bleeding following hysterectomy. Her condition was grave when she reached her room. She was immediately returned to the operating room. A ligature on one of the uterine arteries was not properly placed. The artery was picked up and the bleeding controlled by a new ligature. She survived.

The last case was bleeding following a hysterectomy. The patient was a young woman in her forties. Her condition was poor when she returned from the operating room. An intravenous infusion brought her blood pressure up somewhat and she seemed a little better for two hours. Then she went down into shock and in spite of two more intravenous infusions and one blood transfusion her pulse remained absent and she was without blood pressure. Her abdomen was rigid with shifting dullness, with severe pain and marked tenderness. She was opened up and it was found that she was bleeding from one of her ovarion arteries. The artery was properly ligated but was still bleeding. Apparently what happened here was that the ovarion artery was punctured in transfixing and closing over the vagina. She had a second transfusion during

the operation. She made an uneventful recovery. The first of these patients perhaps might have been saved if she had been immediately explored.

Embolism

The saddest of all tragedies are those caused by septic emboli. I have had two such cases; one in a man sixty-five years old eight days after an inguinal hernia, the other in a woman seventy-two years old on the sixteenth post-operative day following an operation for a large incisional hernia.

One day I was summoned to see a patient who had a cholecystectomy performed fourteen days previously. It was the day he was to be discharged from the hospital. He was having severe chest pain with difficulty in breathing. His skin was cyanotic, cold and clammy. I got to his room in time to help put him back into bed and watch him die.

I was called from the operating floor one afternoon to see a colored boy who had an appendectomy eight days previously. He was sitting on a bed pan when he was seized with chest pain and difficulty in breathing. I saw him die quickly. These cases all had a premonition of death as each one of them said he was dying. The cause of death in these cases was pulmonary embolism. I have seen two patients die of cerebral embolism. Each was following a one stage combined abdomino-perineal resection of the rectum for carcinoma. To date we have no way of combating this tragedy and no way of foretelling it. For embolism occurs in the excellent risks as well as in the poor risk cases.

Serious Results

Several years ago I saw a woman about sixty years old who was treated in the accident ward and reported to the fracture follow-up clinic for aftercare. She complained of pain in her fractured arm far beyond that which is ordinarily experienced in a fractured wrist. Her fingers were eschemic and swollen. Her wrist was flexed and her fingers were contracted. She also had a large blister on the anterior surface of her forearm near the elbow. The bandage had been entirely too tight. This was a case of Volkmann's Contracture. After many weeks of unnecessary suffering she recovered from this avoidable complication with a fairly useful hand. A large slough developed in the location of the blister.

A physician was called to see a boy six years old who had fallen and lacerated his scalp. He cleaned the wound and approximated the skin edges with several sutures. The wound became red, swollen and painful in forty-eight hours. The youngster had several chills and severe fever. He developed a marked cellulitis of the scalp. He was given ether; the sutures were removed and the wound was laid wide open. The wound was found to contain dirt and gravel. Streptococcus was cultured from the wound. It was in the days before sulfanilamide and the youngster had a narrow escape from death. The child endured two months of dressings because of improper surgical care. If the wound had been cleaned properly and a debridement done, all of the pain and unnecessary suffering could have been avoided.

A girl nine years old slipped while climbing over a fence, sustaining a laceration and puncture wound of her thigh. The wound was cleaned and a small splinter removed. The size of the splinter was not ascertained. The wound was unhealed after six months of diligent dressings. Finally at the mother's request a surgeon was called in on the case. X-ray disclosed a piece of wood three inches long, one-half inch in diameter, in the child's thigh. Under nitrous oxide anesthesia the piece of wood was removed. The wound healed promptly.

As Paget stated, the many small things in surgery should be dealt with conscientiously and treated meticulously. In applying a dressing with a drainage tube see that the tube is fastened securely to the skin with sutures, as well as to the outside dressing. A case in point is that of a woman who had three common duct stones removed. A T tube was sutured in the common duct for drainage. When a visit was made directly after operation the tube was found in the bed. The patient suffered a great deal needlessly because of someone's carelessness.

Following a stomach resection, a Levine tube was placed in the stomach. Orders were given to connect the tube on constant drainage with suction. Two hours later the patient was in poor condition with abdominal distension and vomiting. The outlet tube had been clamped by mistake and the fluid from the bottle was going into the patient's stomach. Why the suture line did not break I do not understand. The patient straightened out after the error was corrected. Another thing to look carefully for is proper connection to the bottles. In several instances when the responsibility of connecting a tube to a bottle for constant drainage was left to a nurse, I found that instead of a connecting

tube of good size, a medicine dropper was used. It does not take much for the medicine dropper to become plugged. This results in a backing up which defeats the purpose of the tube.

The calamities which I will next relate are the ones that prompted me to write this paper; two cases of unilateral wrist drop following operations for inguinal hernia. In each case the wrist drop was on the left side. The patients were idle for many weeks because of this needless complication. Fortunately they both recovered the full use of the affected hand. I have been speculating as to the cause of this calamity. The elbow perhaps was leaned on during the operation. This may occur if the arm of the patient is not placed properly on the table, so that the elbow is partly off the table. It might have been caused by the rigid band that is used to fasten the diaphragm of the blood-pressure stethoscope to the patient's arm. I have since been very particular about avoiding any pressure on the elbow and shoulder during an operation, and am also fussy about making sure the patient's arms are properly placed upon the table. A foot drop following a simple cholecystectomy is a calamity, especially when the patient is co-operative and a good friend. This occurred in one of my patients about one year ago. He had to wear a brace for about three months and it was six months before he recovered. In some way his superficial peroneal nerve was injured. The leg strap may have been applied too tightly, so that it pressed on the nerve or the bed clothes may have been tucked down too tightly so as to bring pressure on his foot hyperextending it while he was recovering from ether. In this case as in most of the others, carelessness or neglect in some little detail caused this distressing complication. The orthopedic surgeon who cared for this case told me of another case of foot drop following a cholecystectomy.

To avoid these calamities and tragedies we must scrupulously watch ourselves; for in proportion as our patients are helpless, the more it rests upon our consciences to stand in their place and help them. We must govern ourselves in surgery by such rules that we may be able to escape the regrets of such calamities. Consideration of the liability of these calamities should be an incentive to take careful case histories, make good physical examinations, to overcome all avoidable ignorance, and to practice constant discipline in watchfulness, that one may overlook nothing that can contribute to a patient's welfare.

LOCAL REFRIGERATION AND HIBERNATION IN THE TREATMENT OF CANCER

Francis E. Hanley, M.D.
336 North Broadway, East Providence, R. I.

It is two months since my tour of the eastern medical centers to observe the methods of local refrigeration and hibernation treatment of cancer. Since that time the initial enthusiasm for this type of therapy has decreased to some extent. The future holds the answer as to whether or not it will be efficacious and worthy of general use. In this presentation I intend only to report my observation of some of the techniques of treatment.

Local refrigeration can be dismissed with some general remarks. The apparatus necessary is very simple and varies with the location and extent of the growth. The ingenuity of the physician is tested with each individual case. There must be a means of circulating cold water of a temperature of 37 to 42 degrees to an applicator placed upon or near the growth. The applicator is preferably made of metal but most cases that were observed had rubber applicators. A brain tumor case had a metal applicator inserted into the cavity left after surgical removal of the growth; a tongue cancer had an applicator formed from an airway taken from the anesthesia department. A prostatic case had a metal applicator made from a hollow sound. Breast cases, facial tumors, abdominal tumors, still had rubber coiling applied over the growths. The circulating unit consists of a tank containing cold water kept so with ice cubes; the water is circulated to the applicator and back to tank by means of a circulating electrical pump.

Hibernation is that method of treatment in which the patient as a whole is subjected to a temperature of 40 to 42 degrees during which his body temperature is maintained at 80 to 85 degrees as ascertained by a rectal thermometer. Three methods of doing this were observed. The first was very simple. The patient was placed in a room the temperature of which was 55 to 65 degrees and his bed was filled with sufficient ice to maintain a rectal temperature of 85 degrees.

Read at a Clinical Pathological Conference at the Memorial Hospital, Pawtucket, R. I., April 10, 1940.

The second was the refrigeration or hibernation blanket. The temperature of the room for adults was 65 degrees; for children 70 to 72 degrees. The blanket, a special manufacture of a company in Ohio, was cooled by a large condenser unit similar to that used for air conditioning a room. The blanket enveloped the patient from head to foot both in front and back with zippers at the side. A rectal temperature could be lowered from normal to below 90 degrees in two hours' time with this unit.

The third method was observed here in New England at Meriden, Conn. There was constructed a cabinet larger but similar to the respiratory cabinet used in artificial respiration, the head of the patient being outside the cabinet. This chamber had a capacity of about three times the volume of the patient. It was cooled off to a temperature of 40-42 degrees by a refrigerating unit similar to that used in home electrical refrigerators. This apparatus is a little slower than the blanket in the time necessary to lower the rectal temperature to below 90 degrees because of the relatively increased amount of air space about the patient. It took from four to eight hours to accomplish the result desired. During this time, however, the patient suffers no discomfort because rectal paraldehyde is administered to comfort the patient. The physician, nurse and other attendants are in a comfortable heated room as you will see from the pictures. The rectal temperature is recorded and watched constantly on a Micromax instrument, manufactured in Philadelphia. The head of the patient is in an advantageous position to watch the respirations, pulse, color and mental reactions. Medication, parenteral fluids and care of the body of the patient is easily attended to by means of glass doors on the sides of the cabinet.

It is interesting to observe that at one hospital, feeding of the patients is considered important while at another the patient receives no fluid or nourishment except for emergency intravenous medication. At Temple University Hospital, the standing orders for all hibernation patients were as follows:

1. Feedings 1½ oz. fluid by gavage every hour.
2. T.P.R. and B.P. every half hour.
3. Cod liver oil oz. ss. daily.
4. Thiamin chloride mgm. X B.I.D.
5. Cevitamic acid mgm. 50 B.I.D.
6. Gastric lavage daily.
7. Sterile mineral oil to nose and eyes daily.
8. NaHCO3 gr. XV 4 times daily.
9. Maintain rectal temperature at 86-87 degrees.

At Meriden, Conn., on the other hand, no treatment was administered except in emergencies. However, a reason for this is that the duration of the treatment rarely exceeded twenty-four hours.

Laboratory procedures were being done at all clinics but the opinion seemed to be that the least amount of interference with the patient was advisable because of the shocked condition of hibernating subjects. I am not acquainted with absolute facts or conclusions regarding the laboratory observations of these patients, but these are a few which may be altered by findings later:

1. Temperature of patient lowered.
2. Pulse—rapid, weak, and feeble, unable to ascertain at times.
3. Respirations normal and slower.
4. Blood pressure—decreased—unable to ascertain at times.
5. Heart—normal, forceful, in fact unchanged.
6. Brain—decreased mentality; patient in a cooperative but semiconscious state, memory clouded and lost.
7. Bladder and rectal sphincters control diminished or absent.
8. Blood count—early increase in red blood cells, anemia develops following treatment. W.B.C. lowered although increases have been noted.
9. Blood chemistry changes—not significant.
10. B.M.R.—my information on this is that the B.M.R. is normal or slightly increased during treatment.
11. Circulation time—decreased.

Finally as to the results of treatment. No definite conclusions are possible at this time. Hibernation treatment is still in the experimental stage; the length of treatment has to be determined. The optimum temperature at which the treatment can be successfully performed; the effects of this treatment on normal tissue after two or more treatments; the lasting effect on the tumor growth itself; are a few of the problems that the large research centers must answer.

In conclusion, I would state that the small hospital is no place to attempt to answer the experimental questions involved; but I do believe that hibernation treatment of extreme hopeless cases for the short period of twenty-four hours for palliative purposes only is possible and could be successfully instituted.

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THE PROBLEM OF THE AGED

Those engaged in the various aspects of public health administration are becoming increasingly aware of the growing problem of the aged person. It is somewhat paradoxical that this problem should have been created in a large measure by public health activities in the field of preventive medicine and that the medical profession in their advances of the past twenty years have contributed in a large measure to the problem. Due to various public health activities and discoveries, both in the field of preventive medicine and therapeutic medicine, there are more and more people in the general population moving into the age brackets about sixty-five years of age. This is true not only in terms of percentage of the population, but also in terms of absolute numbers. To view just one aspect of this situation, that is, cerebral arteriosclerosis and senile dementia, these two conditions have been on the increase for several years all over the country, and the admissions in these conditions in states which provide adequate facilities in their mental hospitals have been steadily going up. The result has been to create a bulge in mental hospital services which look after this particular group of patients. These two groups are not only occupying a greater percentage of beds every year, but on account of their age require a greater degree of nursing and medical care than those in the younger groups, and, in addition, the degree of service which they can render the Hospital in its various utilities is correspondingly decreased. In the Rhode Island State Hospital for Mental Diseases, almost fifty per cent of the admissions in the last two and one-half months have been above sixty-five years of age and, in most instances, physically infirm as well. It is recognized that there is no solution or cure for this state of affairs, because we do not know anything at the present time about the prevention of cerebral arteriosclerosis and senile dementia. It may be possible, however, to abate the problem somwhat and provide a partial solution if, before signing certificates of mental disorder on persons falling in this group, the local practitioners would thoroughly investigate the possibilities of looking after the patient in the community. In cases where a little financial assistance might make all the difference between being able to keep patients at home and having to send them to the hospital, this also might be arranged for. The assistance of local directors of public welfare might well be enlisted in trying to work out a solution in the community for these patients. This particular aspect of mental hospital care is costing the taxpayers, among whom are the physicians, real money, and in many instances staff has to be diverted to the care of these patients which might more profitably be used elsewhere for younger patients who have an opportunity for recovery.

The above problem is outlined in the hope that the readers of the JOURNAL may be made aware of the situation and their aid enlisted in helping to provide a partial solution.

RHODE ISLAND HOSPITAL

Clinical Pathologic Conference

PETERS HOUSE, TUESDAY, APRIL 9, 1940

Case Presented by Dr. William A. Mahoney

This patient was admitted to the Rhode Island Hospital November 28, 1938. She was sixty years of age, white, a housewife, born in Massachusetts.

Husband, diabetic. Of seven children, two are said to have had tuberculosis in their youth, but all grew to adult life. Twenty years ago, the patient underwent a hysterectomy at the Woonsocket Hospital. The indication for the operation is not given. Menstruation absent since this operation. One year ago she had a yellowish vaginal discharge.

Present Illness

Patient felt well until seven months ago when she had her first attack of pain followed by vomiting. Pain was located about her right costal margin and radiated around to the back. Pain was sharp and intermittent. Vomiting followed shortly after the onset of the pain and for the next five weeks she vomited almost daily. During all this time she was confined to bed. The treatment consisted of sedation, liquids and the avoidance of fatty foods. Recovery was spontaneous after five weeks in bed at home. Between that time and the present illness she had been well until one week before admission when she complained of epigastric pain followed by vomiting. This time the pain did not radiate and required hypodermics to quiet her. At no time was there jaundice, tarry or clay colored stools. Patient felt that she had had indigestion for nearly a year with occasional slight distention. No hematemesis, diarrhoea or melena.

The examination on admission revealed a well developed and well nourished woman, vomiting but in no apparent pain. T. 98.6, pulse 114, respiration 22. B.P. 110/70. The only positive physical findings were an old, healed, firm, low midline scar, a slightly distended abdomen and slight right upper quadrant tenderness. No masses or spasm. The impression was: Chronic Cholecystitis and Cholelithiasis.

Laboratory Findings:

Urine not remarkable on repeated examinations. Wassermann and Hinton negative. Stools were negative for occult blood. Hgb. 110, R.B.C. 5,000,000. Coagulation time 4 min. Bleeding time 3 min. Sed. Rate 1°—22, 2°—35. W.C. 10 to 14,000 with 70 to 75% polys. The Van den Bergh test showed a delayed direct reaction. Glucose 107. CO_2 combining power 62. Urea within normal limits, except in later stages. There is no report at that time. Smear from operation showed no pus nor organisms. Icteric Index 5.8. The culture of the peritoneal fluid was sterile, and the smear showed no pus or organisms.

Ekg.: November 29th—The day after admission, showed some myocardial degeneration, not abnormal for a woman her age. On December 17th the Ekg. was fairly characteristic of a right bundle branch block. That was the day on which she had a collapse, two weeks after her operation.

X-ray: One chest plate on December 17th showed diffuse increased density in the left base which could be due to consolidation or a very small amount of fluid. There was not much increase in the size of the heart.

Course

Patient remained afebrile for ten days but vomiting and distention persisted. The nurse's notes make no mention of any gross abdominal pain, and enemas repeatedly produced fair gas and fecal results. On Dec. 7th, operation was performed. "The liver was found to be small and high up under the ribs. The gall-bladder could not be seen but was felt and was apparently surrounded by dense adhesions. Small intestine was everywhere very much dilated. Obstruction appeared to be in the lower end of the terminal ileum which could be freed up for about 4" only. Appendix not inflamed. Top of uterus was felt. Omentum was adherent to the entire left lower portion of the peritoneum. Large amount of free fluid. A Wetzel ileostomy was performed with a No. 16 F catheter."

For seven days the patient evidently convalesced satisfactorily. On the 16th a note states that the wound about the tube had broken down and there was a small amount of fecal discharge. No complaints. On Dec. 17th she had a sudden attack of weakness, coma and stertorous breathing. Question of pulmonary embolus. At that time they gave her oxygen, X-ray taken, also Ekg. which showed the right bundle branch block.

From Dec. 17th on, patient vomited whenever the Levine tube was removed. The nurse's notes make no report of gas by rectum or any fecal results from enemas after the time of her collapse, up to which time she was apparently doing well except for a grossly infected wound secondary to the ileostomy.

She died on January 5th.

Discussion

Dr. J. Merrill Gibson:—Here we have a sixty-year-old woman, sick for several months. We would like to know more about this attack which she had on the outside before coming into the hospital, the vomiting, the intermittent pain in her upper quadrant, especially over the right quadrant. It suggests gall bladder disease. She apparently re-

covered from this attack which would suggest that this possibly was a gall bladder attack. However, with the sharp intermittent pain she might have had some obstruction at that time due to an inflammatory condition which quieted down.

Another thing is the history which speaks of tuberculosis. Which one of the parents gave it to the two children? That we do not know. When she was admitted to the hospital she apparently was in good condition, in no real pain. While they were trying to establish her diagnosis she did not pass any stools except by enemas and just before operation she was quite markedly distended and was operated on for obstruction. At the time of operation they found a large amount of fluid which usually goes with obstruction, or it could be with a tuberculous peritonitis. The culture was negative. You would expect an obstruction which had been going on for a considerable period of time to have some bacterial invasion. The adhesions were very dense and we still have to think of a tuberculous lesion. The gall bladder, at operation, was found to be small and covered over with dense adhesions.

Whether we are dealing with two conditions—one an obstruction low down and the other inflammation of the gall bladder higher up is problematical. From the history later on when we find a fecal drainage from the wound and the vomiting persisting, it makes you think that they did not find the absolute cause of her trouble—that apparently she had some inflammatory condition continuing on. I think it would be almost impossible to make a correct guess as to what she did have. She apparently died of a heart condition. Whether that bundle branch block was due to embolism or thrombosis I don't know.

The serum protein is very low and we have edema. She may have died of just pulmonary edema but the inflammation which was present apparently continued to go on. I should say the first diagnosis would have to be chronic inflammation of the gall bladder. Whether that was due to tuberculosis or not I don't know. Secondarily, obstruction and probably a general peritonitis terminal with terminal broncho pneumonia and heart block.

Dr. Mahoney:—I have asked Dr. Morgan Cutts to discuss the meaning of a right bundle branch block.

Dr. Morgan Cutts:—I am really no authority on the subject but a right bundle branch block as I understand it is a special kind of configuration with spreading of the q.r.s. and is usually seen in old failing hearts. It is not necessarily an immediate bad prognostic thing itself. The thing that indicates it may have had more significance in this case is that there were two relatively normal Ekg. examinations before this. When the picture of bundle branch block appears in this sort of case you think there has been a coronary occlusion. Pulmonary embolism also may give a similar electrocardiogram.

Dr. Mahoney:—I was impressed with the fact that two or three times a year we see cases of intestinal obstruction from a gall stone. This five week episode of seven months previously—epigastric pain and vomiting—must have been a pretty severe condition in the R.U.Q. It was more than a simple cholecystitis—it was probably an empyema of the gall bladder to last that long. She had been free from any obstruction for twenty long years after her operation. I wonder if she did not slough a gall stone from the gall bladder and have it get down into her small intestine. The operation apparently did not relieve the obstruction. I wondered if the obstruction was not relieved and if at the end of about ten days she did not develop gangrenous bowel with perforation. Her general balance thrown all off after that might precipitate the attack that occurred, probably a cardiac condition, and she was progressively going down hill all the time.

Dr. B. Earl Clarke:—Do you remember this case Dr. Cooke?

Dr. Charles O. Cooke:—I cannot remember the case. I think the discussion that Dr. Mahoney has made is logical but I cannot recall the case at all. It seems to me that the case must have been intestinal obstruction. Culture sterile, white count up somewhat. I am afraid if I did the operation it will show me up but I cannot make a diagnosis in this case.

Dr. John Ferguson:—How can you rule out mesenteric thrombosis of the small gut?

Dr. Mahoney:—I don't think you can.

Dr. Clarke:—Was there any acute terminal episode?

Dr. Mahoney:—No, she went into a coma.

Postmortem Findings

Dr. B. Earl Clarke:—I have no specimens on this case. At the time of postmortem there was marked edema of both lower extremities and we thought that the thrombosis we later found in both femoral veins explained this edema.

In the right lower lobe of the lung was an infarct. It is difficult to state the duration but at any

rate this was not a terminal event but was of sufficient age for definite color changes. From the clinical story I assume that the acute episode that Dr. Mahoney described at the time of the change of the electrocardiogram was the time this infarct occurred. Dr. Cutts mentioned that a pulmonary infarct might explain the electrocardiogram. It seems that her exodus was due to pulmonary embolism also, since a large coiled thrombus was found in the pulmonary artery.

The belly was found to be everywhere filled with a thick, foul, fibrinopurulent exudate—so there was a general acute peritonitis. I don't think we can explain the cause of all this with great accuracy but we can speculate on it. There were numerous old adhesions of the peritoneum. Most of these were on the left side. The omentum was adherent on this side. One conspicuous adhesion was rather separate from the rest and on the right side. At a point 19 cm. from the ileo cecal valve the ileum was adherent to the bladder. At the time of postmortem there was no evidence of obstruction at that point. The gut above was not dilated but she had had an ileostomy. The lumen did not seem to be markedly narrowed. There were marked adhesions in the region of the gall bladder and as Dr. Mahoney has predicted there was a large communication between the gall bladder and the duodenum and there was one stone still present in the gall bladder. In the rectum there were two more gall stones, one of which was 3 cm. in diameter, which is a good sized gall stone. I think we can be reasonably certain that the original attack seven months ago was gall stone colic and at that time or later there was a communication formed between the gall bladder and duodenum. At the time of postmortem the stones were beyond the adhesions, but it seems reasonable to assume that, at the time of operation, they were at that point. In the colon she had a number of diverticuli and there were small ulcerations in colon and some of these were perforated so that there was communication with the adhesions and fat and little abscess pockets were scattered in this adherent tissue. We could not exactly demonstrate that the perforations were diverticula but it seems reasonable to assume that they were a result of the diverticulitis.

The interpretation is that she had a diverticulitis with perforation and adhesions. It is, of course, possible that the adhesions causing the obstruction did result from the old operation, we see no way to be certain.

Dr. Peter P. Chase:—Did you say anything about that heart condition?

Dr. Clarke:—It was normal as far as we could tell.

Diagnosis

1. Chronic cholecystitis and cholelithiasis.
2. Perforation of gall bladder into duodenum.
3. Chronic diverticulitis of colon with perforation and peritoneal adhesions.
4. Intestinal obstruction due to gall stone lodging at point where ileum was constricted by adhesions.
5. Terminal peritonitis.

NEWPORT COUNTY MEDICAL SOCIETY

December Meeting

The regular meeting of the Newport County Medical Society was combined with that of the Newport County Dental Society on the evening of Tuesday, December 10, 1940 and held in the Nurses Auditorium at the Newport Hospital. Dr. Philip Geller, Vice-President, presided, in the absence of Dr. Samuel Adelson, President. The minutes of the previous meeting were read and approved and further business was dispensed with.

Mr. Walter Campbell of the Y.M.C.A., spoke for a few minutes relative to physical examinations of boys and young men of the Y.M.C.A. in the drive to improve the physical education of these groups. He requested that two members of our Society be appointed to work as co-ordinators with their committee in this drive.

Dr. Norman MacLeod, General Chairman of the Newport County Medical Society Committee on the Annual Meeting, gave remarks on the Rhode Island State Meeting to be held here next May and asked for the fullest co-operation.

The speaker of the evening, who was then introduced, was Dr. Joseph Doherty of Boston, an Oral Surgeon at the Massachusetts General Hospital. His subject was "The Management of Pathological Lesions of the Jaw." A very thorough and instructive lecture, supplemented by slides, was given, covering all phases of diseases and conditions of the jaw. A general discussion ensued following his talk which was well received. A rising vote of thanks was given the speaker.

Present, were members of the Army and Navy Medical Corps, Miss Gage and Nursing Supervisors. The Dental profession was well represented. Collation was served and the meeting adjourned at 10:35 P. M.

Respectfully submitted,
Alfred M. Tartaglino, M. D.,
Secretary

PROVIDENCE MEDICAL ASSOCIATION

November Meeting

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, November 4, 1940. The meeting was called to order by President John G. Walsh at 8:40 P. M.

The Secretary read the minutes of the previous meeting which were accepted as read and placed on file.

The Secretary reported for the Executive Committee that the following men had been recommended for election to active membership:

Thomas F. Fogarty, M.D.

James Blessing Moran, M.D.

And for associate membership:

Kieran William Hennessey.

Dr. Jesse Mowry moved for the unanimous election of these applicants to membership in the Association. The motion was seconded and passed.

Dr. Peter P. Chase, Chairman of the Committee on Medical Preparedness, spoke briefly relative to the need for filling out and returning to the American Medical Association the questionnaire forms which have been sent to every doctor. He also spoke of the need for specialists for the Induction Board and asked that any men interested in so serving communicate with Dr. Halsey DeWolf, State Chairman for Medical Preparedness.

Dr. Harry C. Messinger, Chairman of the Committee for the Community Fund campaign reported that the Doctors' Committee had conducted a very successful campaign and he thanked all the members of the Association for the splendid cooperation they extended to the solicitors.

The President announced that the obituary of Dr. Thomas Black as prepared by Dr. George S. Mathews and Dr. Frank E. McEvoy had been placed on file with the Secretary.

The President introduced as the guest speaker of the evening Dr. Joseph V. Meigs of Boston, Mass., Visiting Surgeon of the Massachusetts General Hospital and the Pondville Hospital, who gave a splendid presentation on the subject "Female Endocrinology." The paper was discussed by Dr. George W. Waterman and by Dr. Herman C. Pitts.

The meeting adjourned at 10:20 P. M. Attendance, 130. Collation was served.

Respectfully submitted,

HERMAN A. LAWSON, M.D., *Secretary.*

RECENT BOOKS

OBSTETRICS IN GENERAL PRACTICE. By J. P. Greenhill, B.S., M.D., F.A.C.S., pp. 448, with illustrations, Cloth, $3.50, The Year Book Publishers, Inc., Chicago, 1940.

This book is another of the single volume surveys on various subjects which have been published by this company. It maintains the high level which the others have established. Dr. Greenhill, the author, is known to us not only as the associate of Dr. De Lee but also as the contributor of many articles to current literature, as author of "Office Gynecology" and for years as the co-author of the "Year Book of Obstetrics and Gynecology."

In the preface the author notes that most obstetrics is done by the general practitioner and implies that the purpose of the volume is to present the information essential to anyone doing obstetrics. "Historical data, controversial discussions, extensive descriptions of anatomy and pathology and conditions which are rarely encountered" are omitted. The volume well fulfills its purpose. The style is clear and concise. The general field of obstetrics is well covered. Sufficient detail and practical suggestion is presented to enable the average physician to properly care for his obstetrical practice. The author does not forget that most of this work is done in the house.

In a volume as short as this (448 pages) the author must be didactic. However, Dr. Greenhill draws on his wide personal experience. His ideas are tempered with a satisfactorily conservative attitude. In discussing more important topics references are made to studies in the current literature to which the reader may turn for further information. Many of these references are in the literature of the current year (1940). The material thruout the book is up to date. The newer concepts of the architecture of the female pelvis and its influence on labor, soft tissue X-ray technic for placenta previa and other recent contributions to the field of obstetrics are considered.

The volume is abundantly illustrated. Many of the illustrations are new and are adequately done. A good index is also provided.

MILTON GOLDBERGER, M.D.

VITAMIN THERAPY IN GENERAL PRACTICE. By Edgar S Gordon, M.D., M.A., and Elmer L. Sevringhaus, M.D., F.A.C.P. pp. 252 with 35 illustrations including color plates. Cloth $2.75, The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, Illinois.

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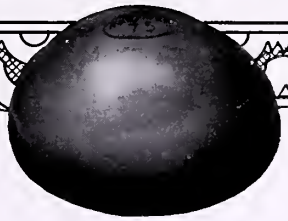

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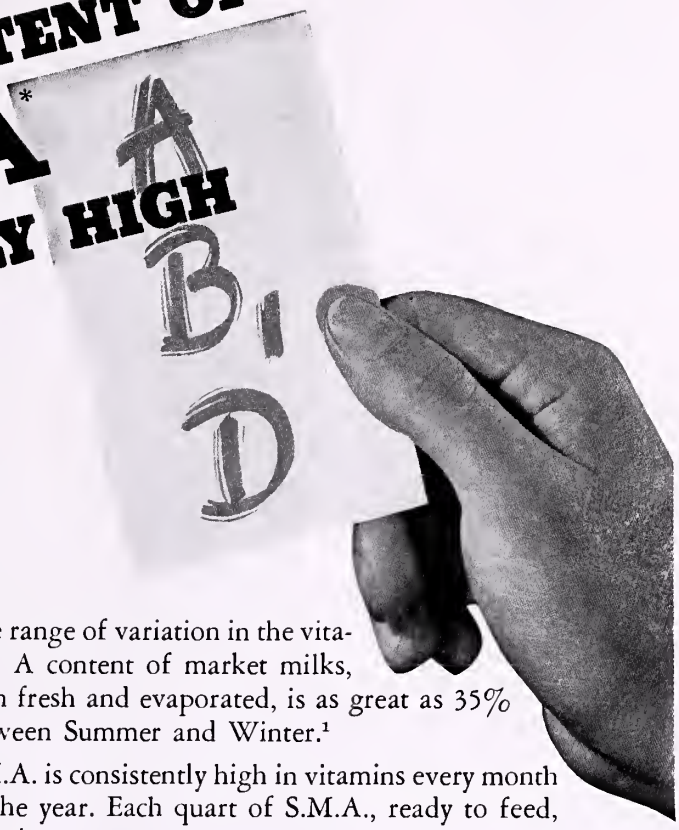

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1. Dornbush, A. C., Peterson, W. H., and Olson, F. R.: "The Carotene and Vitamin A Content of Market Milks." J.A.M.A., May 4, 1940, pp. 1748-1751.

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THE RHODE ISLAND MEDICAL JOURNAL

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RHODE ISLAND MEDICAL SOCIETY

Annual Meeting, Newport, R. I., May 28-29, 1941

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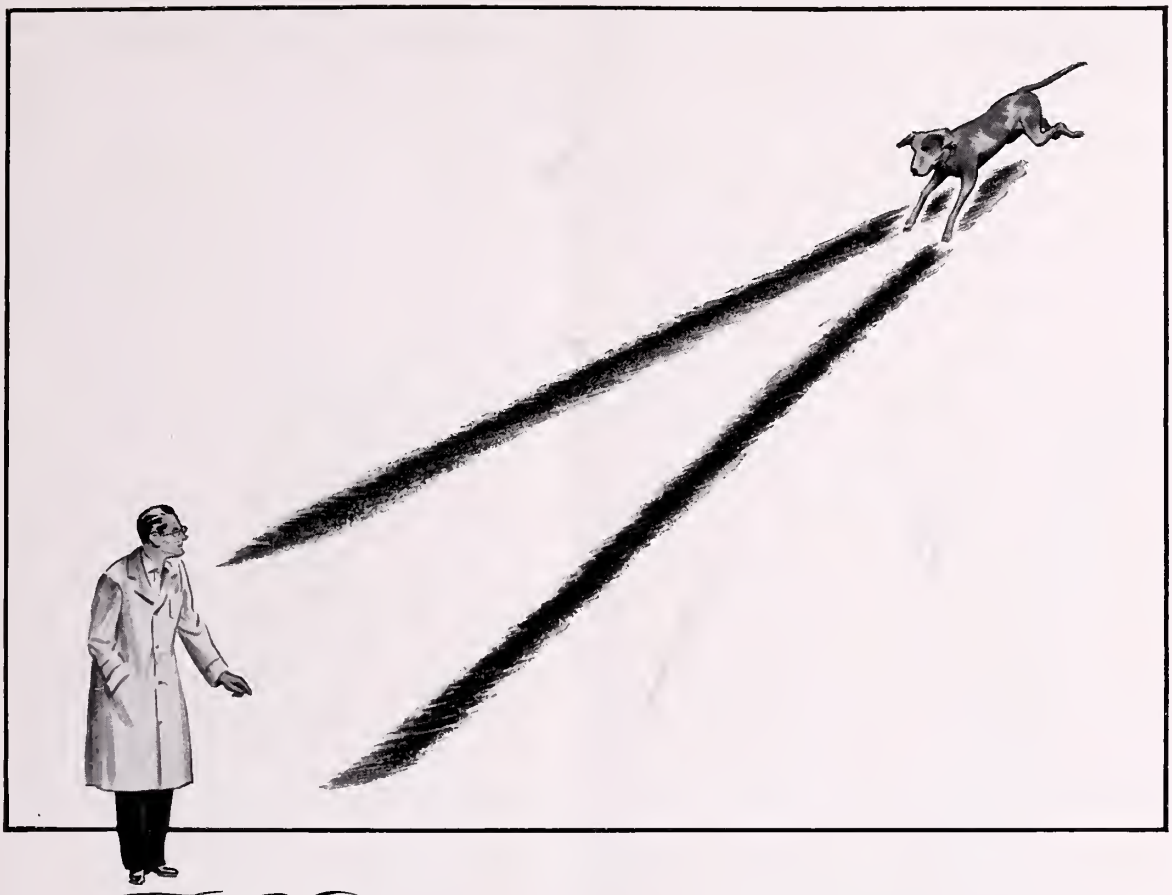

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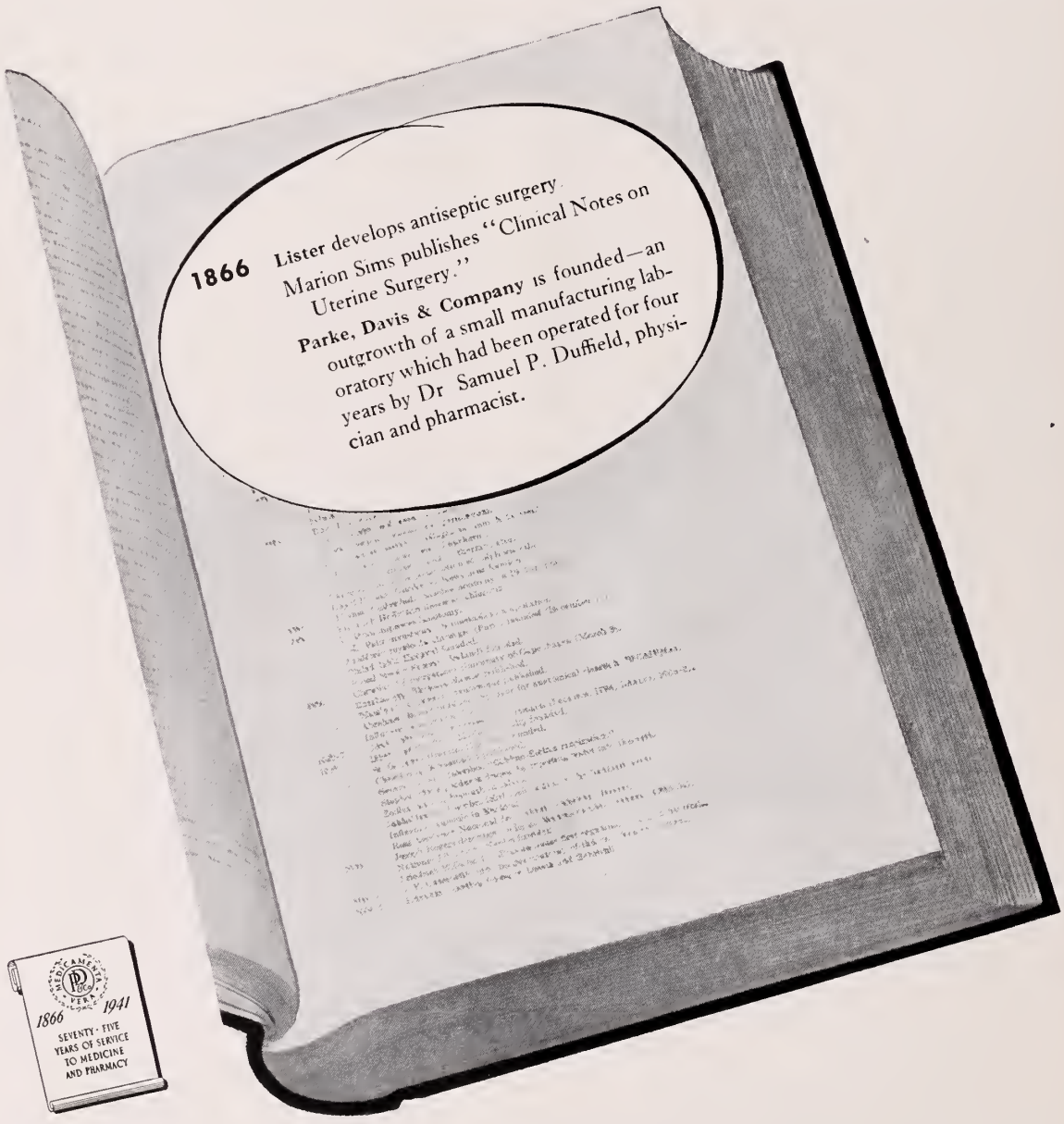
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As containers, Appert suggested glass containers sealed by corks; the reason given is that glass is the "matter most impenetrable by air" (1). In 1810, one year after Appert's discovery was announced, Peter Durand, an Englishman, patented a procedure very similar to Appert's, which covered the use of a variety of containers, among them "vessels of tin (tin-plated iron)." From that time forward, the use of tin-plated containers rapidly progressed.

Commercial canning began in America about 1819. In 1825, Kensett and Daggett, two pioneers of canning in this country, received an American patent covering the use of tin-plated containers. Shortly thereafter, the name "tin can" was coined from the abbreviation of the formal name, "tin cannisters."

The story of the development of the tin can in America is an absorbing one which has been related in more detail elsewhere (2, 3, 4). By the time of the war between the States, the "hole and cap" type of can had been evolved. About 1890, can-making machinery was introduced to replace the older hand-manufacturing operations whereby a skilled artisan could produce about 6 cans per hour. Modern can-manufacturing lines operate at speeds as high as 350 cans per minute.

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As far as can be determined, tin containers were first introduced to avoid breakage which was experienced with the glass containers proposed by Appert. The other desirable characters of the tin container for foods were not fully appreciated at first; among these advantages should be mentioned its rapid rate of heat transfer, its low weight in relation to its capacity, and its opacity to light. Nor was the importance which the tin can has attained in our national life fully appreciated until world developments caused America to pause and take inventory. Only then was it generally realized that from its humble start 130 years ago, the tin can has risen to become an indispensable article in our modern civilization.

AMERICAN CAN COMPANY
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(4) 1940. The National Geographic Magazine, November, p. 659.

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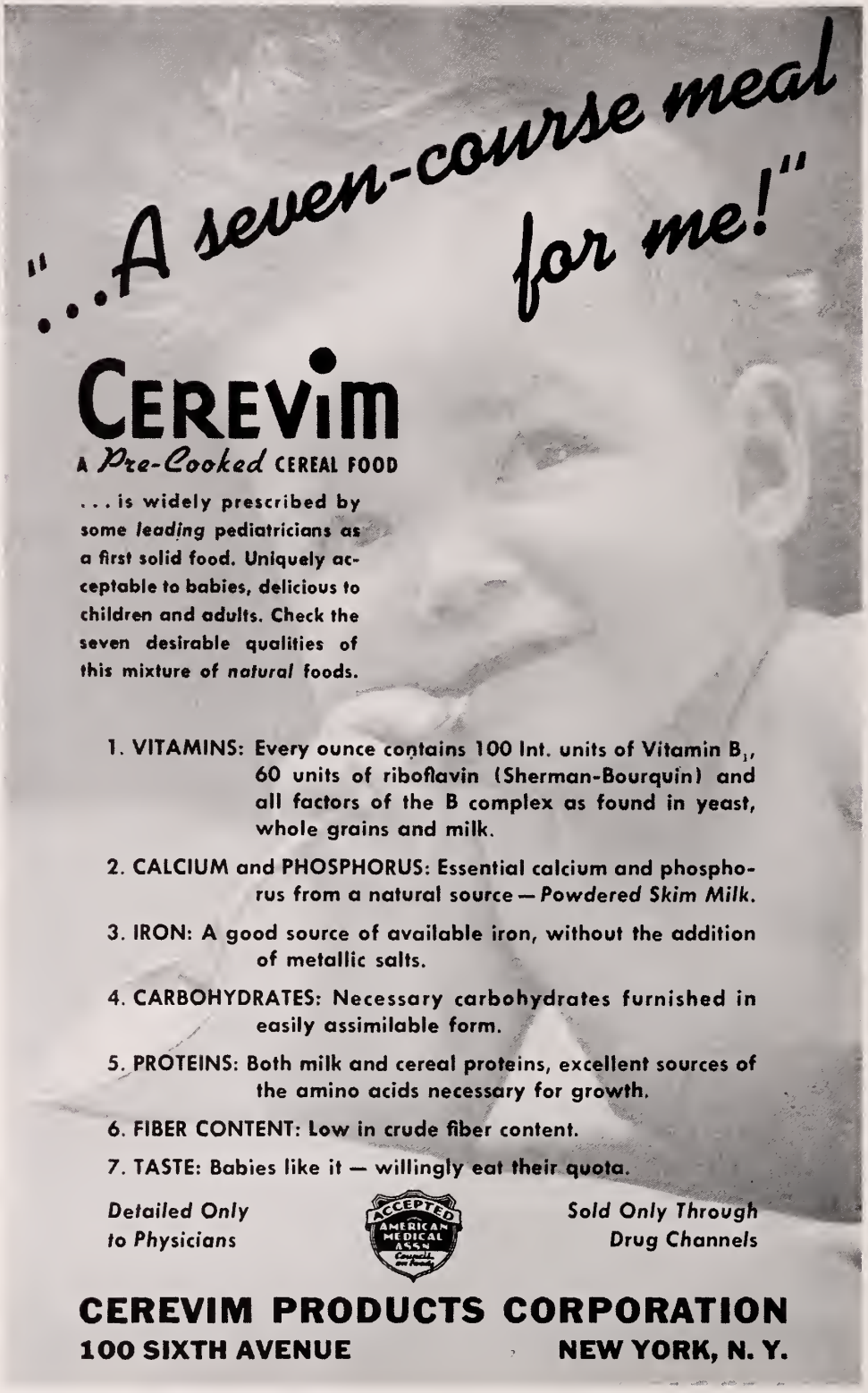
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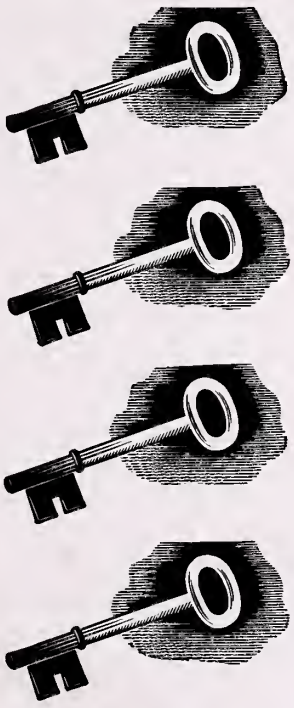

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THE RHODE ISLAND MEDICAL JOURNAL

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THE EDWIN SMITH SURGICAL PAPYRUS

ROLAND HAMMOND, M.D.
219 WATERMAN STREET, PROVIDENCE, R. I.

In the opinion of many students, and among them are to be reckoned some eminent historians, medical science began with the rise of Greek medicine; yet nothing is farther from the truth. For many centuries before that era, there existed a considerable medical literature in the Ancient Near East. The first faint flickerings of the scientific interest, as we regard it today, developed in ancient Babylonia and nearby Egypt. The beginnings of medical knowledge reach back to about 3000 B.C. in both countries. The literature of Babylon was recorded on tablets of stone which were easily broken and destroyed while that of Egypt was more conveniently inscribed on papyrus rolls. Some of the latter have been found loosely tucked in a coffin or mummy case, and so have been preserved for us, whereas the Babylonian fragments have probably served as building stones.

Many students of history believe that the Valley of the Nile is the true cradle of civilization. Here medicine early attained an outstanding position. It is no accident that the leading God of medicine, Aesculapius, was originally an historical personage, an ancient Egyptian wise man and physician, grand vizier, chief architect and royal medical adviser of the Pharoah in the Thirtieth Century B.C., called Imhotep by the Egyptians, the earliest known physician in history.

Realizing the exalted position of this venerable Egyptian physician of five thousand years ago, we need not be surprised to learn that the historical documents of Egypt reveal the existence of medical treatises early in the third millennium B.C. A few of these treatises have come down to us as medical papyri.

The *Ebers Papyrus* was originally supposed to be one of the Sacred or Hermetic Books of Thoth, the Moon God, who, like Apollo in Greece, was the special deity of medicine. Later researches have shown that it is to be regarded as a simple compilation, as if prepared for some great temple. It is really an encyclopedia made up of several treatises. It begins with a number of incantations against disease and then proceeds to list a large number of diseases in detail, with some 875 recipes, and 47 diagnosed cases. The most interesting parts are the extensive sections on the eye and ear, including a notation of the Egyptian trachoma, and the descriptions of the A A A disease, the U H A disease and the Uxedu (painful swelling), all three of which have been thought to be different stages of the hookworm infection. The large number of remedies and prescriptions cited in the papyrus suggest a highly specialized therapeusis but this fact alone would seem to indicate a decadence rather than any special advancement in the art of healing. These facts demonstrate the existence of so large and detailed a body of medical knowledge in the Old Kingdom as to require specialization. Wounds in skulls discovered only a few years ago at Thebes disclose evidence of surgical operations and demonstrate that surgery was already well advanced in that era. Each Egyptian physcian was a narrow specialist, confining himself to one disease or to diseases affecting one part of the body only. Thus he was known as the "palace eye-physician", the "palace stomach-bowel physician", as "one understanding the internal fluids", or as "guardian of the anus."

In the last section of the Ebers papyrus, which treats of tumors, we find some approach to the accurate clinical pictures of Hippocrates. Some ethical precepts of the ancient Egyptian physicians are very much like the Hippocratic oath in sentiment and expression, and this alone would suggest that pre-Hippocratic medicine in Greece owed much to Egyptian medicine. There is, however, one marked point of difference, namely, that later Egyptian medicine was entirely in the hands of priests, while Greek medicine was entirely independent of priestly domination.

Read before the Providence Medical Association at the meeting on June 3, 1940.

Egyptian medicine is evidently closely connected with Biblical medicine, as evidenced in the numerous old Testament references to medical subjects, particularly in the Pentateuch.

In 1862, Edwin Smith, an American Egyptologist living at Thebes, purchased fragments of a papyrus from an Egyptian fellah.

The papyrus was in a badly preserved condition and required skillful restoration. It has been translated and studied only within the past decade. The Edwin Smith surgical papyrus consists of seventeen columns of writing on the front and four and a half columns on the back. The material on the back consists of recipes and incantations. There are incantations against pestilence and a long recipe for restoring youth to an old man. These recipes and incantations are a later addition, having no relation to the writing on the front. The introduction to the treatise has been lost, but from a hint dropped in the Papyrus Ebers it may have been identical with an ancient medical book spoken of as "The Secret Book of the Physician."

The seventeen columns on the front are part of a treatise which is fundamentally different from any of the surviving medical documents of the ancient Orient thus far discovered.

This treatise is purely surgical, the first and oldest thus far recovered. It is an orderly arrangement of cases which begins with injuries of the head, and proceeds downward through the body, like a modern treatise on anatomy. The treatment of the injuries is rational and chiefly surgical. There is resort to magic in only one of the 48 cases preserved. Each case is classified by one of three verdicts: (1) favorable, (2) uncertan, or (3) unfavorable. The third verdict, expressed in the words, "an ailment not to be treated" is found in no other Egyptian medical treatise. This unfavorable verdict marks a group of cases which the surgeon cannot cure, and which he is led to discuss solely from his scientific interest in the phenomena observed.

This papyrus is a copy, dating from the 17th Century B.C., of an older manuscript written in the Pyramid age, one thousand years earlier. Both the beginning and the end of the copy have been lost and the manuscript nowhere discloses the name of the author, but we conjecture that a surgical treatise of such importance may possibly have been written by that earliest known physician, Imhotep, the great architect-physician who flourished in the 30th Century B.C.

That this surgical treatise was already old when this copy was made, is further shown by the fact that the terms employed were no longer clear to the ancient Egyptian reader of that remote day; for it has a commentary incorporated into the text. This commentary is a priceless revelation of the meaning of many words and terms which would otherwise have remained hopelessly unintelligible, coming down to us from an age when surgery was first creating its technical language, some 5000 years ago. The author was building up a terminology in surgery, such as has happened in one science after another.

The study of these words reveals in a fascinating manner the human mind struggling to express its meaning, and creating the necessary terms by comparing them to familiar, every-day objects. Here is the word "brain" occurring for the first time in human speech. In discussing injuries to the skull affecting the brain, this ancient surgeon is not content with the designation of "fracture", but further indicates the degree of injury by the terms "compound fracture" and "compound comminuted fracture." The convolutions of the brain he likens to the corrugations on molten copper and the aptness of this phase will be recognized by anyone who has seen the convolutions into which metalic slag forms itself. The fork in the ramus of the human mandible he compares to the claw of a two-toed bird. Here are the earliest known anatomical, physiological and pathological descriptions. By his constant reference to the side of the head which has been injured he shows an early appreciation of cerebral localization—an observation which has been more fully developed only within the present generation. He had already observed a series of effects arising in other parts of the body as a result of injuries to the brain or spine, and was aware of the shift of the effect from one side to the other according to the side of the brain injured, but he was misled by the contre coup. Here then is the discovery of the fact that the brain is the source of control of the movements of the body. He used adhesive tape and surgical stitching. He recognized the cardiac system and nearly discovered the circulation of the blood, for he appreciated the importance of the pulse and had probably already begun to count it. He knew that the pulse represented a pulsation of the heart, that there was a canal leading from the heart to every member of the body, and that there is "pulsation in every vessel of every

member." This was 2500 years before mention of the pulse appeared in Greek medical treatises. At the same time he knew little of the nervous system other than the brain and spinal cord, but made the remarkable observation that a dislocation of the cervical vertebrae was accompanied by a seminal emission.

If the remainder of the treatise ever existed, its loss is a subject of keenest regret, for it would undoubtedly have included a discussion of the surgery of the digestive system and other viscera. What happened to the scribe of 3500 years ago, engaged in copying the ancient surgical treatise, then already a thousand years old, will always remain a mystery. He had copied at least eighteen columns of the venerable manuscript and had reached the bottom of a column when, pausing in the middle of a line, in the middle of a sentence, almost in the middle of a word, he raised his pen and ceased writing. Little did he realize that centuries later the scientific world would mourn the loss of the remaining portion of the oldest surgical treatise.

It must be understood that the Smith Papyrus is at least the third edition of this treatise. The first edition was that of the anonymous author. Then in the 26th Century B.C. an editor equally intelligent as the original author copied the text and supplied the glosses. Our copy is one made 1000 years later from the second edition by a careless scribe who made numerous errors, some of which he tried to correct, while others passed unnoticed until discovered by the masterly work of James H. Breasted, recently published in two volumes. This is one of the most remarkable documents in the entire history of scholarship.

To understand the difficulties encountered by scholars in translating an Egyptian papyrus, a brief consideration of the Egyptian language is necessary. Egyptian writing was originally purely pictographic, each picture signifying the thing it depicted or suggested. These pictures were called hieroglyphs and were always used for inscriptions and monumental records on stone, long after they had become phonetic signs. These hieroglyphic pictures were slow and difficult to make, and were gradually replaced by a form known as the hieratic, in which the signs could be written more rapidly. Hieratic may be compared to our own handwriting, and hieroglyphic to printing in capital letters. It is practical and convenient to transliterate an Egyptian hieratic writing into the hieroglyphic pictures just as we might edit an old handwritten manuscript by preparing a typewritten copy of it. Both hieratic and hieroglyphic read from right to left. Hieratic is sometimes described as cursive, which is simply a modification to permit of more speed in writing.

All that is preserved of this ancient treatise, occupying the front of the papyrus, contains forty-eight cases, all injuries or induced by injuries with two possible exceptions. The discussion begins with the head and skull, and proceeds downwards by way of the nose, face and ears, to the neck, clavicle, humerus, thorax, shoulders, and spinal column, where the text suddenly and dramatically ends in the middle of a line, in the middle of a sentence, in the middle of a case. There are twenty-seven cases which discuss injuries to the head, two each of the cervical vertebrae, clavicle, humerus and sternum, and one each of the shoulders and the spinal column below the neck.

It is probable that the complete treatise continued the discussion of the lower parts of the body and concluded with the feet, although there is no evidence to support this conclusion. There is some reason for the supposition, however, since the Papyrus Ebers proceeds in this orderly fashion.

The author follows a definite principle of arrangement, and besides proceeding from the head downwards, he also considers trifling cases first, then passing to more serious and fatal cases. He first considers injuries to overlying soft tissues and then proceeds to a discussion of more serious injuries affecting the underlying bone. Thus the first case deals with a superficial scalp wound, the second with a more gaping cut, the third a perforation, the fourth a "split" and the fifth a compound, comminuted fracture. In the sixth case the meningeal membranes are ruptured, and so on to other fatal injuries of the skull.

The discussion of each case discloses a systematic arrangement which is almost universally followed throughout the treatise. It is as follows:

1. Title.
2. Examination.
3. Diagnosis.
4. Treatment (unless the case is considered fatal and untreatable).
5. Glosses (a little dictionary of obscure terms with this explanation).

In some cases, although a fatal outcome is to be expected, the surgeon indicates his scientific interest by outlining an alternate group of symptoms

which, if present, might imply a favorable outcome, and outlines a treatment for the same.

1. The *title* begins with the word "Instructions", followed by location of the injury and the region or organ affected, e.g. "Instructions concerning a gaping wound in his head, penetrating to the bone, (and) splitting his skull."

2. The *examination* is worded as a teacher addressing a pupil would speak. This raises the question if the papyrus is not simply a text book, the instructions of the master being recorded in the very words which he used. The examination regularly begins: "If thou examinest a man having", or "thou shouldst place thy hand upon him" or "thou shouldst probe his wound" etc. The examination includes (a) history, (b) observation (inspection), (c) smell, as in the case of perforated sutures of the skull the surgeon observes that "the odor of the chest (crown) of his head is like the urine of sheep", (d) tactile observations, in which the surgeon is directed to lay his hand on the wound as well as to probe it. It is possible that the surgeon was instructed to apply his hand or fingers for the purpose of counting the pulse. In the case of a dislocated mandible, the surgeon is particularly instructed just how to place his fingers and thumbs for the purpose of reducing the dislocation, and we note that he places this kind of manipulation in the examination rather than in the treatment. This was undoubtedly because the operations of the surgeon were not regarded as treatment, which consisted in the mind of the Egyptians in the use of medicaments and recipes. (e) Movements of parts of the body as directed by the physician. In examining a dislocation of the cervical vertebrae, the author observes "he is unable to turn his face that he may look at his breast and his two shoulders." One of the most interesting of these tests, is the last case in the treatise, that of a sprain in the spinal vertebrae. The surgeon is directed as follows: "Thou shouldst say to him: Extend now thy two legs (and) contract them both (again). When he extends them both, he contracts them both immediately because of pain." These instructions indicate the earliest examples of observation and conclusion, the oldest known evidence of an inductive process in the history of the human mind.

3. The *diagnosis* is always introduced by the words: "Thou shouldst say concerning him", addressed to the student by the lecturer, and continuing "one having" (followed by a description of the disease or injury). The diagnosis always ends with the verdict in one of the following statements, varied according to the severity of the symptoms:

1. "An ailment which I will treat."
2. "An ailment with which I will contend."
3. "An ailment not to be treated." (14 times)

It is to be noted that the third verdict is to be found in no other Egyptian medical papyrus, and the second verdict is found only twice in Papyrus Ebers. The verdict is not comparable to our prognosis, because the surgeon simply outlines his course of procedure, but does not venture an opinion as to the outcome of the case.

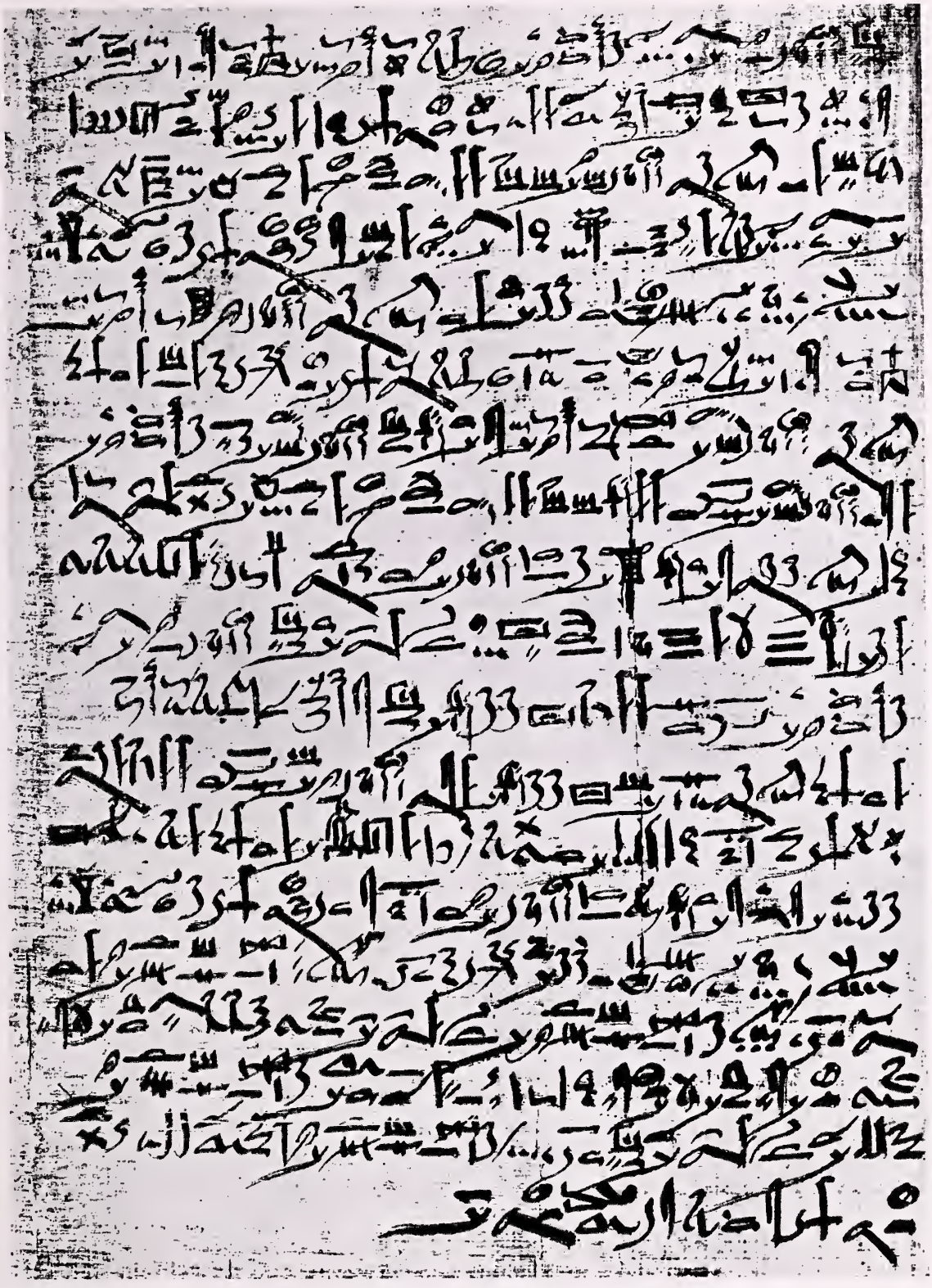
There are also qualifying verdicts:

A. "Until he recovers."
B. "Until the period of injury passes by."
C. "Until thou knowest that he has reached a decisive point."

One diagnosis is noteworthy because of the clear reasoning shown by the author. In a case of compound, comminuted fracture of the skull without visible external injury, the condition is described as "a smash in his skull under the skin of his head, there being no wound at all upon it". This is explained in the gloss as meaning "a smash of the shell of his skull, the flesh of his head being uninjured." The absence of external injury might easily have misled the practitioner to conclude that the partial paralysis of the lower limbs, and the distortion of the eye, both on the same side, might be due to disease. He is, however, keenly aware of the condition present, and adds: "Thou shouldst account him one whom something entering from the outside has smitten." This is further elaborated in the gloss: "As for 'one whom something entering from the outside has smitten' . . . it means one whom something entering from the outside presses, on the side of him having this injury." The ancient surgeon was already beginning observations on the localization of the functions of the brain.

4. *The treatment.* The surgeon does not always decide to treat. In 16 out of 58 examinations he omits all suggestions as to treatment. In the cases where treatment is prescribed it is entirely mechanical in three cases, surgical combined with external medicaments in twenty cases, and by the use of external medicaments in nineteen cases.

The mechanical appliances are few, but their use is described for the first time in surgical treatment. Lint, swabs of linen (for the nose), bandages of linen made by the embalmers, adhesive plaster ap-



End of the incomplete surgical treatise, showing Case 48, ending abruptly in the middle of a line. Read from right to left.

Reproduced from The Edwin Smith Surgical Papyrus, Volume II, by James Henry Breasted. Courtesy of the University of Chicago Press.

plied to gaping and cut wounds. To use the quaint language of the text: "To the two lips of the gaping wound, in order to cause that one join to the other." Surgical stitching, cauterization, splints or braces of wood padded with linen were employed. A strip of stiff "cartonnage"* moulded to a broken limb much resembled a modern plaster cast, and stiff rolls of linen called "posts of linen" for splinting a broken nose were used. Supports or piers for maintaining the patient in the upright posture in skull injuries, were made of sun-dried brick or adobe and moulded to fit the patient. Unfortunately no systematic study of the surviving Egyptian surgical instruments has ever been made, although the museums of Europe and America contain a large number.

The Egyptian surgeon's treatment of fractures was apparently very successful. Directions are given for the reduction of fractures and dislocations and the proper application of splints. In over 100 cases of fracture of the forearm, only one ununited fracture,—that of the ulna,—and one case of suppuration were found.

The author is evidently at a loss regarding manipulation of a skull fracture. Outside of initial probing, always performed with the fingers, he relied upon rest. Examination of over 100,000 bodies in Egyptian cemeteries and tombs reveals three common conditions: (1) arthritis, (2) mastoid disease, (3) fracture of the ulna two inches above the wrist. In women the left ulna is most commonly broken as though the injury were received in attempting to fend off a blow from a club.

External medicaments consisted in the application of fresh meat for one day followed by honey-ointment and numberless vegetable and mineral decoctions.

5. The *glosses* constitute a little dictionary of terms occurring in the treatise, which was already so old in the 26th Century B.C., that it contained numerous terms no longer in use and requiring explanation for the reader of that day. Many of these glosses go into great detail in explaining the ancient language, so that the student may have no possibility of doubt as to the correct meaning of the statement. The original author of the treatise, and his successor, who wrote these glosses, were the first natural scientists of whom we have knowledge.

*Cartonnage consisted of layers of linen impregnated with glue and plaster and moulded while soft to conform to the limb and is commonly found in mummy cases.

The last column from the front of the papyrus has been chosen for illustration. The following is a translation of the final case of the treatise:

CASE FORTY-EIGHT

A Sprain in a Spinal Vertebra (Incomplete)

TITLE

Instructions concerning a sprain of a vertebra [in] his spinal column.

EXAMINATION

If thou examinest [a man having] a sprain in a vertebra of his spinal column, thou shouldst say to him: "Extend now thy two legs (and) contract them both (again)." When he extends them both he contracts them both immediately because of the pain he causes in the vertebra of his spinal column in which he suffers.

DIAGNOSIS

Thou shouldst say concerning him: "One having a sprain in a vertebra of his spinal column. An ailment which I will treat."

TREATMENT

Thou shouldst place him prostrate on his back, thou shouldst make for him . . . . . .

In considering the function of this treatise, we are aware of the existence of three classes of surgical documents in ancient Egypt. First, handbooks used by surgeons in daily practice. Second, outlines for the use of teachers in giving medical lectures, and third notebooks used by students in reporting medical lectures.

It is probable that this treatise was a reference book from the medical library of a practicing physician, and that on the back of it he had jotted down from time to time, magical recipes as they had come to his attention. In fact, the whole treatise is very much in the nature of notes, whether those of a lecturer or of a student.

DEPORTMENT

A physician should be an "upright man, instructed in the art of healing." Consequently he must keep himself pure in character and conform to a high standard of morals and must be diligent and conscientious in his studies. "He should also be modest, sober, patient, prompt to do his whole duty without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all the actions of his life." (Hippocrates.)

From the Code of Ethics of the A. M. A.

LUETIC HEART DISEASE IN RHODE ISLAND

Clifton B. Leech, M.D.
82 Waterman Street, Providence

In May, 1940, there were in Rhode Island 4,480 persons known to be under treatment for syphilis, according to figures supplied by the Rhode Island Department of Health. Slightly less than 1700 of these were registered in the established venereal disease clinics located at the Woonsocket Hospital, Memorial Hospital in Pawtucket, Newport Hospital and the St. Josephs, the Chapin and the Rhode Island Hospitals in Providence. From these clinics figures have been obtained which make possible the estimation of certain probabilities concerning the syphilitic group in the State as a whole.

There is no syphilitic involvement of the human body which is probably more frequently overlooked than that of the cardiovascular system. Syphilitic aortitis in its early so-called silent period, which may become rather long, is difficult, if not impossible, to detect and for that reason a great deal of emphasis has not been placed on its diagnosis. This lack of emphasis has lead to insufficient attention on the part of the physician to premonitory signs and symptoms. While the most striking evidences of aneurysm, the thrill, the loud murmur and the peripheral signs of syphilitic valvular lesions attract a great deal of attention it is seldom one finds much interest shown in the comparatively insignificant signs and symptoms of early aortitis which almost invariably precedes every other syphilitic cardiac process. That syphilitic involvement of the heart is common has been emphasized by many pathologists some of whom claim that more than fifty per cent of all patients with syphilis reveal damage in the aorta and its vicinity at autopsy. Our great authority, Stokes, says, "From the pathologic physiology of syphilis, it is difficult to understand how the heart and the great vessels can ever escape involvement."

It is a common experience in busy syphilis clinics for the cardiovascular damage to be overlooked perhaps not even searched for, until the patient himself complains of some rather definite and suggestive symptoms. Perhaps the requirements for a diagnosis have been too rigid, perhaps the diagnostic methods are yet too crude to detect many of the syphilitic lesions early, or possibly the acumen of the clinician is at fault. At the syphilis clinic of the Rhode Island Hospital it was felt that a higher percentage of luetic cardiovascular damage would be revealed by some system which would permit a fairly comprehensive examination with the cardiovascular system especially in mind. The previous method and one still used in many busy clinics, does not permit time for the physician who is directing the treatment of the syphilitic patient to make physical examinations. With fifty or more patients to supervise at each session it became almost necessary for the syphilologist to delegate the routine physical examination to other persons. As time went on it became routine for the physical examinations to be done in the medical clinic or not at all; thereafter the patient might continue for years in the syphilis clinic without ever being examined again until or unless he himself requested it. Inevitably a number of patients going through the routine, vigorous anti-luetic treatment, did badly on account of the well-known fact that syphilitic aortic disease frequently becomes greatly aggravated by arsenicals. This state of affairs was recognized as not desirable from many points of view by the chiefs and workers in the syphilis clinic of the Rhode Island Hospital, Outpatient Department and they welcomed the opportunity of having a division of the clinic devoted to the segregation and special supervision of patients with luetic cardiovascular damage.

In January, 1934, this new division began its service and since then has had the most friendly and helpful cooperation by all the workers. Attempt has been made to examine every patient who came to the syphilis clinic regardless of age, practically all of whom are known to have or to have had syphilis. Although the syphilis clinic itself is in operation three days a week, the cardiovascular division has functioned once per week, on Mondays, and has been uninterrupted during the past six years except for very brief periods.

Read before the one hundred and twenty-ninth Annual Meeting of the Rhode Island Medical Society, Providence, June 5-6, 1940.

It is the duty of the nurse in charge to see that each patient, new or old, is examined, and whenever a patient is selected for supervision his record card is stamped with a device which is intended to bring attention to the fact that he has syphilitic heart disease and is only to be cared for in the cardiovascular division.

1047 patients have been examined at least once. About 200 of them have been examined a number of times and many will be re-examined about every six months as long as they come to the clinic. Re-examinations are done on all patients with hypertension, with any kind of a murmur, with questionable heart symptoms or signs, and on many of those beyond fifty years of age. During the first week in May, 1940, there were in the syphilis clinic 521 so-called active patients, that is, patients who are supposed to be under the constant supervision of the clinicians. There were 48 patients with congenital syphilis, 18 males and 30 females, 13 under ten years of age, 19 between ten and twenty, 5 between twenty and thirty years of age and one between forty and fifty. None of these have any signs of cardiovascular lues. In view of the fact that about half of them have had syphilis, congenital in origin, for fifteen or more years it seems that young vascular tissues are particularly resistant to the activity of the spirochete.

There were 217 males and 256 females with acquired syphilis. This total of 473 victims of acquired lues includes 37 patients in the cardiovascular division, a percentage of 7.8. This is not, however, a true picture of the percentage since 21 additional patients with cardiovascular damage are inactive by reason of death, or removal elsewhere. Among the 1047 who have been examined there have been 58 segregated for supervision and treatment in the cardiovascular division, a percentage of 5.5. This 58 in relation to the 521 active patients in the clinic, represents more than 11 per cent. These three percentages also serve to illustrate how easy it is for one to arrive at the figures he may wish to emphasize. A more significant computation is to separate the patients in the clinic by age. Of the 521 active patients 229 are under forty years of age; 3 of them have luetic heart disease, a percentage of 1.3; 292 of them are over forty years of age; 34 of them have luetic heart disease, a percentage of 11.6, illustrative of the fact that cardiovascular syphilis is uncommon under the age of forty.

In the 1670 patients of the six clinics in Rhode Island 819 were over forty years of age. In the same proportion there should be in the State's 4480 luetic patients 2194 over forty years of age. On the basis of the figures from the 521 patients at the Rhode Island Hospital clinic there should be in the state 283 patients with syphilis of the heart and aorta.

Among the 217 living males with acquired lues at the Rhode Island Hospital clinic are twenty with cardiovascular damage, while the 256 females includes seventeen with similar lesions. There have been seventeen deaths, thirteen males and four females. The four patients lost track of are males. Thus, among 234 males there were 37 with cardiovascular lesions, while 260 females included only 21 in this category. It is evident that the male is not only more susceptible to luetic cardiovascular damage than is the opposite sex but that he also is less able to withstand it. This is no doubt due, in part, to the greater physical strain which the average male undergoes.

Among the estimated 283 patients in the State with luetic cardiovascular damage, perhaps unrecognized, it is probable that approximately 180 are males with a poor prognosis.

In respect to the relative incidence of syphilis in whites and Negroes our figures are distinctly different from most published statistics. Of the 521 patients 80 are Negroes, approximately 15 per cent, while 7 of the 37 patients with cardiovascular damage are colored, equalling about 19 per cent. The 7 colored luetic heart patients in relation to the 80 colored patients is less than 9 per cent, while the figure among our white patients is slightly less than 6 per cent. Most published evidence shows that cardiovascular syphilis is three times as frequent in the colored man as in the white. Our conclusion about this has to be that our figures are altogether too small for comparison or else Northern Negroes are not nearly as susceptible to cardiovascular damage as the Southern Negro, from whom most of the data have been obtained.

The 58 patients with cardiovascular syphilis were classified as follows: pure aortitis, 7 living, 3 dead and one lost track of; aortitis with slight aortic insufficiency, 7 living, one dead and one lost; aortitis with marked aortic insufficiency, 13 living, 8 dead and one lost; aneurysm of the thoracic aorta without aortic insufficiency, 4 living and 5 dead; aneurysm of the thoracic aorta with aortic insufficiency, one living; miscellaneous, 5 living and one lost.

The ages of these 58 patients at the time the cardiovascular damage was first diagnosed were as follows: in the decade from 30 to 40 there were 4, from 40 to 50 there were 15, from 50 to 60 there were 27, from 60 to 70 there were 10, above 70 there were 2. The average age at death was 54, the youngest was 39, the oldest was 71. The average length of treatment in the cardiovascular division of those who died was slightly above two years. About half of the living patients have been in this division for five years and are still in relatively good physical condition.

It is impossible from our data to know how many years elapsed between the initial infection and onset of demonstrable cardiovascular damage since most of the patients denied any knowledge of initial lesions. After considerable experience in attempting to uncover the probable source of the original infection it has been found an almost hopeless task, and it seems that most of them are telling the truth when they declare their ignorance of the original infection. Many of them come from marital contact, there are always a few that swear that there has never been any sexual intercourse except with the marital partner yet the partner is uninfected, there are a few who at first deny having had syphilis years ago, but after becoming better acquainted will, in a mood of confidence, admit that they were actually treated for a short time in early life. The youngest patient in our group was 31 years of age, when, in 1930, he was found to have a positive Wasserman and said that he had a chancre about one month before, but he also had a urethral discharge about one month before he had the chancre. He had heavy treatment for a year or so without effect on his serology. He then neglected treatment and returned in May, 1935 complaining of considerable palpitation and definite precordial discomfort. An examination then showed all the signs of aortitis with aortic insufficiency, approximately five years after the initial infection. This patient is now forty years of age, feels well, has the same signs, his serology still shows a positive Wasserman and Hinton. He seemed sick every time he was given neo-arsphenamine and has had more or less continuous bismuth therapy. There has been no appreciable change in his cardiac signs in the last four years but there has been marked improvement in symptoms. Several reports of very early cardiovascular involvement in syphilis have been made, in one young man three months after the infection; in another patient, death from rupture of the damaged aorta before the secondary eruption was fully developed.

In an attempt to observe whether the treatment of early syphilis is an efficient prophylaxis of cardiovascular syphilis, the 58 patients were reviewed from that point of view. None of them, with one exception, had been treated until a comparatively short time before the diagnosis of the cardiovascular condition. This is, of course, of negative value in answering the question, but since only one of them had been treated, and inadequately, for early syphilis it seems likely that the proper treatment of early syphilis is good prevention. Statistics compiled by the United States Public Health Service have shown that the adequate treatment of early syphilis will almost surely exempt the patient from cardiovascular involvement. Among 3,641 cases treated during the early stages of the disease less than one per cent subsequently developed this late and crippling manifestation.

It is a matter of interest to observe the incidence of hypertension in the patients who have aortic insufficiency. It has been stated that hypertension, of moderate degree at least, is frequently a compulsory phenomenon associated with the aortic lesion and with hypertrophy of the left ventricle. Of the 31 patients with luetic aortic insufficiency only seven had hypertension with systolic levels constantly above 160 mm. of mercury, which would seem to suggest that the hypertension was more or less coincidental rather than compensatory. All but 4 of the 58 patients continued to show serologic evidence of syphilis. This may be due in part to the fact that they could not have the repeated and heavy treatment which non-cardiovascular damaged patients could have but seems more likely to be due to the fact that these patients have severe syphilis in a particularly resistant form. Spinal fluid tests were not done on many of these patients but only one of the 58 showed definite signs of syphilis of the central nervous system. From the reports of the United States Public Health Service it would be expected that 25 per cent or more of patients with luetic cardiovascular damage would be found to have concomitant central nervous system syphilis. For this reason it is recommended that spinal fluid examinations become a routine in this class of patients.

The treatment of these patients could not be rigidly standardized because of their varied conditions when first becoming members of the special group. Some of them had had two or three years of treatment, not treatment of early syphilis but two or three years treatment of late syphilis. Some of them had already had heavy dosage of arsenicals and metals. Some patients were in very poor physical condition and others were in quite a good state. So far as possible the treatment is started with a series of intramuscular injections of bismuth sodium tartrate, 2 cc. of a 1½ per cent solution. If there are no contra-indications the dosage is soon stepped up to a weekly injection of a 3 per cent solution. If the patient does well as judged by improvement in symptoms or at least by lack of obvious progression after approximately 20 to 25 injections then neoarsphenamine by vein is instituted in a dosage of .1 gm. If 4 doses of this are well borne the dosage is then stepped up .05 gm. and so on until the maximum dose of .45 gm. is reached. If all goes well the patient is given a vacation of three months and then the whole process begins again with bismuth sodium tartrate followed by sulpharsphenamine or, occasionally by mapharsen.

About one-fourth of the patients received no arsenicals either because they did badly and it did not seem wise to give it to them or for other reasons, about one-fourth of them received small doses of neo-arsphenamine and did never receive large doses because they did not stand it well, and about one-half of them were given the routine as outlined. While several patients complained of being made ill and feeling tired and nauseated and generally worse after arsphenamine there was only one true Herxheimer reaction. The disastrous results which have followed the use of larger doses of the arsenicals and more particularly have followed institution of treatment with an arsenical without preliminary heavy metal therapy are supposed to be due to an acute oedema occurring in a diseased area with immediate mechanical weakening. There are slower forms of reaction leading to a more gradual change so that sometimes the patient's symptoms at first seem to improve but later become notably aggravated. This has been ascribed to a too rapid healing of the inflamed luetic area resulting in fibrosis, contraction and distortion.

The signs indicating that the patient was not doing well under the arsenicals usually consisted of an increase in the heart rate, in aggravation or onset of congestive failure, the presence of severe dyspnea and feelings of palpitation, and in one instance death shortly after treatment. One does not have to see patients doing poorly under neo-arsphenamine many times before he adopts a very cautious attitude in its use. Practically all of the patients experience symptomatic improvement as the result of this careful treatment. Of course those who have congestive failure when first seen are treated as any other cardiac patient would be and these for the most part are the ones that receive only the bismuth. It is impossible to prove by our figures that the treatment prolonged the life of any of these patients, but to see them improve and get along well under treatment whereas they were not doing well before is sufficient to convince one of its value. In this connection it may be stated that where there have been adequately controlled figures it has been found that treatment has increased the duration of life after detection of the cardiovascular damage from 34 months or about 3 years to 85 months or about 7 years in cases of aortitis without severe complications such as marked aortic insufficiency or aneurysm.

The patients whom we diagnosed as having pure aortitis had (1) X-ray evidence of aortic dilatation, (2) the classical tympanitic, hollow, liquid, so-called tambour accentuation of the aortic second sound, (3) a history or symptoms of circulatory embarrassment. Certain authorities add three criteria to these, namely, progressive cardiac failure, substernal pain and paroxysmal dyspnea, and they say that the presence of three or more of these six signs and symptoms in a syphilitic patient under fifty years of age, free from mitral disease and in the absence of hypertension, is strong evidence for the diagnosis of uncomplicated syphilitic aortitis, and that presence of any two of them renders the diagnosis probable.

Patients with uncomplicated aortitis bear well the routine treatment of the cardiovascular division and usually experience a striking diminution in symptoms which when present, often consist of an anginal type of substernal pain with or without rapid heart action and a sense of palpitation. The physical signs are apt to indicate little or no progression of the luetic process; in one patient an aortic insufficiency developed while under treatment.

Patients with slight aortic insufficiency seem to do well as the result of treatment, judging by the apparent slow progression of the physical signs.

The patients with marked aortic insufficiency have had questionable benefit from the anti-luetic therapy, and a considerable proportion of them have had little or none of this treatment, not standing it well, but a few have seemed to derive some degree of symptomatic benefit and seem to be in no immediate danger of heart failure. The manner of death in each instance but one, who died suddenly, consisted of ordinary congestive failure and occurred within fourteen months after the first definite signs of left ventricular weakness. About half of the patients in this group require rations of digitalis.

It is especially difficult to evaluate the effect of treatment in aortic aneurysm since even without treatment the lesion often remains unchanged for long periods. Anti-luetic therapy must be most carefully supervised in these patients on account of the danger of a "therapeutic paradox" wherein the otherwise beneficial effect of arsenicals weakens the diseased aortic wall with resultant rupture. Bismuth therapy is comparatively safe and is of unquestionable benefit in some cases. Occasionally an arsenical may also be used to good advantage as illustrated by a woman of 66 years of age with an aneurysm of the arch and ascending aorta who was first seen in the tumor clinic in 1934 on account of a swelling just above the inner end of the right clavicle. This pulsating tumor rather rapidly progressed in size until treatment was begun about 6 years ago; since then there has been no notable increase in its size. There is almost certain erosion of the upper portion of the sternum, but she has had no pain since the first few months of treatment which consisted of a great deal of bismuth and two courses of neo-arsphenamine. Another taught us a lesson. She was a widow of 52 who at the age of 49 had a syphilitic lesion on a forearm and started therapy for it in 1932. She had no symptoms referable to her cardiovascular system, but in 1934 examination in the clinic showed unusual heaving impulses in the supracardiac area especially to the left. No murmur and no thrill were detected. The X-rays showed a huge aneurysm of the arch and descending aorta. Subsequent to the X-ray examination she was studied under the fluoroscope and apparently enough was said in the hearing of the patient to make her aware of her condition. The next morning's paper carried an account of her death by suicide. The social service department investigated and found that she left a note to the effect that she had judged from her examination that her condition was hopeless and decided to end it all. This indicates the need of being very careful that the patient hears only what is good for him to know, especially in the case of luetic disease which has a particularly devastating effect on the morale of its subjects.

The patients classed as miscellaneous are those who have syphilis, are in the age decades when luetic heart disease is most common, have signs or symptoms which could be due to luetic heart disease but also have other lesions which might possibly account for their difficulty. Examples of these are a man of 56 years with marked hypertension and the signs of aortitis including dilatation of the aorta which could be caused by the hypertension alone. A second man had signs of probable aortitis and angina pectoris without hypertension, but the signs were not as definite as in some other patients. A third at 58 had definite generalized arteriosclerosis with aortic insufficiency and with auricular fibrillation. Was his aortic insufficiency luetic? It could have been due to the arteriosclerosis. A fifth patient of more than 40 years of age, a colored man with aortic insufficiency also had rheumatic mitral stenosis. Apparently this was not an Austin Flint phenomenon but a true rheumatic heart, he had lues, he had aortic insufficiency; was it rheumatic, was it luetic? A sixth patient of 63 has aortic insufficiency and questionable signs of aortitis. The seventh with no definite valve lesions, no hypertension, no unusual sclerosis of his arteries, no definite coronary artery disease, has syphilis and myocardial failure of both ventricles; is an instance of luetic myorcarditis? These patients are the ones in whom it is difficult to make a positive diagnosis but who certainly deserve special consideration, and who, in order to play it safe, should be classified as having luetic heart disease.

A diagnosis of luetic myocarditis has not been made in any of these patients. The valvular and vascular lesions produce strain on the heart muscle with resultant myocardial failure, but the actual invasion of the myocardium by the spirochete, although reported by pathologists in some parts of the country, is seldom encountered in New Eng-

land, and perhaps is not often searched for. That gummatous lesions occasionally invade the heart muscle and the coronary system is well known but gummata in these locations, as elsewhere, disappear under effective therapy and are rarely found at autopsy. Although criteria for the clinical diagnosis of luetic myocarditis have been expounded in some of the Southern clinics where there are many Negro patients we have been content here to consider such a lesion as a possible factor in some of the patients in the miscellaneous group.

The foregoing observations of luetic cardiovascular disease in a special division of one clinic, and specially the fact that almost all cardiovascular syphilis is discovered after the damage is done, has implications extending beyond the 4,480 patients known to be under treatment in Rhode Island. How many others are there undetected, untreated and unreported? In 1939 the number of patients reported to the State Department of Health as new cases was 1,230; yet only 42 were classified as primary and 108 as secondary. This 12 per cent of early cases contrasts strangely with the 21 per cent reported in the years 1932 to 1935, inclusive, and stands as a distinct challenge to medical educational forces. All syphilis should be detected and treated but a special attempt should be made to diagnose it early in its course. Luetic cardiovascular damage can be prevented by (1) detection of early syphilis, (2) adequate treatment of early syphilis and (3) detection of cardiovascular lues in its earliest stage.

Grateful acknowledgement is made of the cooperation of Mr. Thomas B. Casey of the Rhode Island Department of Health, Division of Communicable Disease Control, and of the social service departments of the venereal disease clinics. A publication of the U. S. Treasury Department, Public Health Service, "Cardiovascular Syphilis" has been quoted freely.

RHODE ISLAND STATE DEPARTMENT OF HEALTH

THE PRESENT STATUS OF THE STATE'S PNEUMONIA CONTROL PROGRAM

As a result of recent advances in the treatment of pneumococcus pneumonia, the number of deaths in our state from this traditional enemy of mankind during the past two years has shown a decided decrease. This decrease in the roll of deaths from pneumonia may be expected to continue to just the extent to which physicians familiarize themselves with the available methods of etiological and physical diagnosis and the proper indications for serum and chemotherapy. While the recent identification of the thirty-two types of pneumococci and the production of specific antiserum for each type together with the revolutionary development of at least two specific drugs — sulfapyridine and sulfathiazole — adds to the physicians' armamentarium a great opportunity to save lives, yet at the same time it also places a great responsibility upon both the health agencies and the practitioners of medicine to see that these newer methods of treatment are not only available to all suffering from pneumococcic infection, but also that these remedies are utilized in the best manner possible.

In the fall of 1939 as a result of savings effected earlier in the year, funds were avaliable to enable the State Department of Health to furnish free anti-pneumococcic sera of all 32 types to all physicians for the treatment of patients financially unable to purchase the serum. Nine General Hospitals in the state acted as distributing stations carrying the more common types, while the rarer types for which but little call was expected were available in the Division of Narcotic Drugs and Pharmacies at the State Office Building. For the present year arrangements have been made with the Charles V. Chapin Hospital to act as a distributing center for the rarer types of serum whenever the State Office Building is closed; i. e., Saturdays, Sundays, nights and holidays.

PNEUMONIA DEATHS — STATE OF RHODE ISLAND

For the Period December to May, 1933-1940

NUMBER OF DEATHS

Season of	Broncho-Pneumonia	Lobar and Unspecified	Total
1934	134	264	398
1935	116	250	366
1936	142	321	463
1937	173	325	498
1938	168	246	414
1939	125	175	303
1940	114	132	246

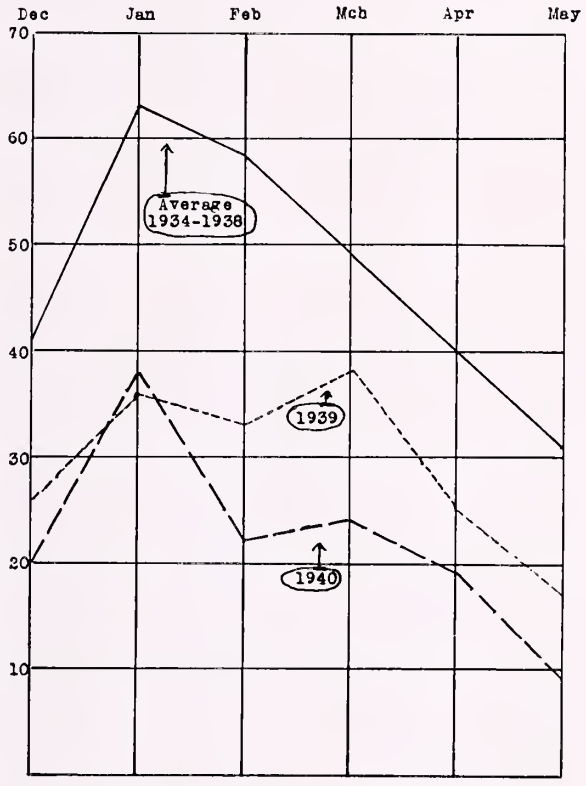
At the request of the Director of Health, the President of the Rhode Island Medical Society, Charles H. Holt, M.D., appointed an advisory committee on pneumonia control to assist in planning the details of distribution. This committee consisted of the following physicians: Alex M. Burgess, M.D., Morgan Cutts, M.D., Charles F. Gormly, M.D., John F. Kenney, M.D., and William S. Streker, M.D.

The plans worked out by this committee have proven eminently satisfactory and the committee has been continued and recently has formulated plans for the distribution of both sulfapyridine and sulfathiazole on the same basis as anti-serum is distributed. The members of this committee also offered their service in an advisory capacity to any physician wishing advice in the administration of serum or chemotherapy.

In 1935 the Neufeld rapid method of typing was adopted and the following year a 24 hour typing service was established. The newer drug therapy requires rather close laboratory check to establish the proper blood concentration and to detect possible contra-indications before such signs become clinically apparent. For this reason the patient should be hospitalized. However in those cases which must be treated at home and for which private laboratory service cannot be secured the state laboratory offers all necessary chemical and pathological examinations.

There has been a gradual yet steady decline in the death rate from pneumonia since the turn of the century. The average annual death rate for the five year period, 1900-1904 was 185.2 per 100,000 population. Since 1930 the annual rate has been below 100 and in 1939 it was 59.7. While the steady decline is undoubtedly due to more than one factor, better therapeutic procedures have been an important factor.

For the purpose of comparing the number of deaths from pneumonia during the pneumonia season of the past two years with the previous five year period a table and a graph are attached. A glance at these tells the story. In 1939 the decrease in deaths from lobar pneumonia was 38 per cent, while in 1940 the decrease was 53 per cent.



Graph showing Number of Deaths from Lobar Pneumonia in Rhode Island for the Periods Indicated.

A study of the table shows that no significant changes have taken place in the mortality from broncho-pneumonia. In a recent official publication of an advisory pneumonia control committee the following statement occurs: "Some authorities attribute 25 per cent of atypical (broncho) pneumonias to the pneumococcus; other surveys place such percentage as high as 65 or even 80 per cent." Is it possible that the absence of any decrease in deaths from broncho-pneumonia may be due to a lack of appreciation on the part of physicians that the pneumococcus is very frequently the etiological factor in broncho-pneumonia as well as in the lobar type?

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POSTGRADUATE EDUCATION IN RHODE ISLAND

A generation ago it was usually necessary to go to Boston or New York to find clinics, conferences, lectures, postgraduate courses, or any of the presentations of recent advances in medicine. In those days most of our education was found in medical journals, our local medical association meetings, and occasional meetings of medical societies in some large city.

During the last ten years the staff rounds and clinical conferences at our hospitals have developed into meetings of great value. In these groups, when men of ability have been willing to take the time to arrange for good meetings, the sessions have been remarkably good.

This development is so recent that many of us do not realize the opportunities that are open to us. During the last year the Providence Medical Association has been publishing each month a schedule of clinics and staff conferences in Providence and Pawtucket. Any physician is welcome at these meetings and will find at most of them important and timely problems well presented.

Nothing is more important in our work than a familiarity with the best work that is going on about us. This knowledge whets our interest in studying patients and the literature. It arouses our pride to lead in knowledge and skill. Very few of us can reach our full capacity without the encouragement and stimulation of personal contact with others who are doing first class work in our own lines.

Any physician who attends a good conference regularly once a week can be sure that in the field covered by the conference he is a well educated man.

Clinical Pathological Conference

MEMORIAL HOSPITAL, PAWTUCKET, R. I.

February 14, 1940

Case Presented by Dr. Edward H. McCaughey

No. 49049, Medical Service. E. L., American born, female, married, age 66, was admitted to the Memorial Hospital October 5, 1939. Her chief complaint was frequency of urination.

Patient was well until about four years ago at which time she started having frequency of urination. She states that she got up during the night every fifteen minutes. At that time she consulted her family physician who advised her that she had diabetes and that she should learn to take and use insulin. However she was afraid to use the needle, so, although she bought a syringe, she never used it. During the past four years she has gradually become worse, having a lot of pain, and burning urination as well as frequency. She states her thirst was tremendous. She has never liked to eat a lot of sweets. Two weeks ago patient became so weak she was willing to follow treatment so was started on insulin and diet by her family physician. Hospitalization advised for regulation.

Past history shows no serious illness, no operations, no use of tobacco or alcohol.

Father and mother are dead, five brothers and one sister living and well. Diathesis negative.

Symptomatic History: There is some palpitation, cough and dyspnea, on slight exertion. Appetite good, bowels constipated. Used to have spells of nausea and vomiting; none recently. Pain, burning and frequency of urination, as above.

Physical Examination: A well developed but very poorly nourished elderly white female who is lying comfortably in bed. Examination essentially negative except for:

HEART: Left border of cardiac dullness 12 cm. from midsternal line. There is a systolic murmur heard over the apex. A2 is greater than P2.

ABDOMEN: Flat. Thin. Liver, kidneys and spleen not palpable. There is a suprapubic mass about the size of a large grapefruit which is dull to percussion. Regular in outline. Tender to palpation. Patient states she passes urine when mass is pressed.

GENITALIA: Labia and vulva are inflamed, reddened and very painful. The urethral orifice is inflamed.

VAGINAL EXAMINATION: The whole vaginal canal is inflamed and very tender. Due to the enlarged

bladder and tenderness, examination could not be carried out.

RECTAL EXAMINATION: Good sphincter tone. No hemorrhoids. Some tenderness. Cervix, uterus and adnexa could not be palpated due to enlarged bladder.

IMPRESSION: 1. Diabetes Mellitus
2. Acute Vaginitis
3. Chronic Urinary Retention
4. ? Fibroid Uterus

CONSULTANT: 11/2/39. To the: Urological. Remarks: Patient entered hospital with urinary retention. Has been passing blood since entry. This has increased in amount the last few days.

REPORT BACK: 11/3/39. From: Urological. Cannot give a worthwhile opinion until patient is cystoscoped. Would recommend same.

X-RAY REPORT: 11/4/39. Examination of the abdomen shows a group of ring shadows, consistent with facetted gall stones. There were also some opaque shadows across the upper lumbar spine and left upper quadrant, the nature of which could not be determined at this time.

OPERATION RECORD: 11/4/39. Operation performed: Cystoscopy. Upon inspection externally extensive caruncle at meatus protruding outward. Attempt to pass cystoscope but unable to on account of a narrow urethra, necessitating dilatation to a no. 24 sound, whereupon a no. 24 cystoscope was passed, large amount of old thick bloody urine evacuated. Several washings needed with irrigating fluid. Could not be cleared enough to see exact condition. There appeared to be a cystocele growth on right side of bladder, another portion on left side. Would recommend irrigations with verigole solution, followed by 1 oz. 15% argyrol p.d. I would advise removal of urethral caruncle with pontocaine anesthesia.

BLOOD TRANSFUSION: 11/11/39. Amount given: 200 cc.

11/17/39: Vaginal examination done at accident room after preliminary dose of Morphia gr. 1/6.

Outlet: Urethral Caruncle. Anterior and posterior vaginal walls firm. Glands negative.

Cervix: Lacerated, short, bound down, not markedly tender. One small area on left side that bleeds easily, not markedly friable.

Corpus: Anterior. Markedly enlarged. Irregular, firm. Corpus cannot be moved.

Adnexa: No definite masses made out. There was a thickening of the broad ligaments of both sides.

Impression: 1. Fibro-myomata of uterus. 2. Urethral Caruncle.

Patient still cannot control urine.

CONSULTATION: 11/18/39. To the: Surgical. Remarks: Pelvic Mass and Caruncle.

REPORT BACK: 11/20/39. From: Surgical. Large caruncle, mass in pelvis. Probably malignant bladder. Suggest deep x-ray or radium if condition permits. Also cystotomy could be considered.

Laboratory Reports:

BLOOD CHEMISTRIES:	URINARY SUGAR:
10/6/39: Sugar 285 mg. per 100 cc., Urea Nitrogen 30.36 Creatinine 2.1	++
10/7/39: Sugar 272 mg. per 100 cc.	++
10/9/39: Sugar 316 mg. per 100 cc.	++
10/10/39: Sugar 266 mg. per 100 cc.	0
10/12/39: Sugar 103 mg. per 100 cc.	0
10/14/39: Sugar 83 mg. per 100 cc.	0
10/16/39: Sugar 196 mg. per 100 cc.	0
10/18/39: Sugar 121 mg. per 100 cc.	0
10/20/39: Sugar 222 mg. per 100 cc.	0
10/23/39: Sugar 200 mg. per 100 cc.	0
10/25/39: Sugar 125 mg. per 100 cc.	0
10/27/39: Sugar 91 mg. per 100 cc.	0
10/30/39: Sugar 74 mg. per 100 cc.	0
11/2/39: Sugar 74 mg. per 100 cc.	0
11/4/39: Sugar 49 mg. per 100 cc.	0
11/6/39: Sugar 54 mg. per 100 cc.	0
11/9/39: Sugar 43 mg. per 100 cc.	0
11/13/39: Sugar 67 mg. per 100 cc.	0
11/18/39: Sugar 280 mg. per 100 cc.	0
11/21/39: Sugar 444 mg. per 100 cc., Urea Nitrogen: Q.N.S.	0

SMEAR-CULTURE: 10/5/39.

Culture-Smear from: Urine. For: Bacteria.

Report: 10/6/39 — No growth.
10/7/39 — Rod — Large spore.

BLOOD COUNTS: 10/5/39.

Hgb. 70; R.B.C. 2,750,000; W.B.C. 5,400; Neutro 60; Eosin 1; Baso. 1; Lymph 33; L.M. 5.

11/18/39: Hgb. 70; R.B.C. 2,980,000.

WASSERMAN AND HINTON: 10/11/39.

Cholesternized Antigen: Negative.

Acetone Antigen: Negative.

Hinton: Slight positive.

BLOOD TYPING: 11/8/39.

Blood Type: II (Moss).

Progress: The patient's condition on admission and shortly thereafter remained poor. There was a slight improvement following transfusion. Following the temporary effects of this, the condition grew progressively worse until death on November 22, 1939.

Dr. Sprague: This case was rather interesting. I sent this patient in and Dr. Kerney being away I

was called upon to say something about it. I first saw this patient in December 1935. She was complaining of excessive thirst, pain in lower abdomen, loss of 65 pounds in the past year, headaches, and itching of the vulva. Urination was frequent and enormous in quantity. No history of serious illnesses. Always enjoyed eating. Appetite good. Bowels regular. In 1935 her eyesight was not good. Worse lately.

Physical examination revealed a woman of the age noted. Tongue dry. Teeth false. Heart sounds regular. Blood pressure 205/90. Abdomen very obese. Negative for definite painful areas. Slight dullness in the left lower quadrant. Vagina was normal except for excessive inflammation of the vulva. Uterus was small. Urine showed four plus sugar; negative for albumin at that time. At that time she was advised to take insulin and such was prescribed. Medication towards reduction for hypertension was also given. She did not come back for observation. I did not see her again until October 1939. At this time she was markedly emaciated, weak, poor vision, complaining of frequent and burning urination. Stated that she had lost 35 pounds during the past year. Blood sugar 421. She would not be hospitalized. Her relatives, not particularly of the intelligent type, were not able to convince her. The only thing to do was to have a district nurse go in which was done. For a few days, I believe the nurse did go in but she got sick of that and the people got sick of having her around the house. She was sent to the hospital finally at the request of the people. When I examined her at that time at her home she had a definite mass in the lower abdomen. Otherwise, she seemed to be in the last stage of a diabetic condition. A consultation was asked from the urological service on the third of November. She was cystoscoped on the morning of the fourth by Dr. J. E. Kerney.

Dr. Kenney: The reason that you could not possibly do a cystoscopy was that she had such an extreme vaginitis at the time. We could not even attempt the cystoscopy at the time and we could not get the desired information.

Dr. Chapian: I did not see the patient at the time. I think one of the interesting features of this case from the urological point of view is that one can easily be misled by the presence of diabetes and ascribe the urinary symptoms entirely to that disease. As we study the history of the patient we see that this patient had considerable pain and burning on urination which gradually became worse and increased in severity. She had frequency of urination which gradually became worse and she urinated every 15 minutes. I think that in the uncomplicated polyuria of diabetes, the patient passes large amounts of urine and as a rule is free of burning or dysuria. I think that some men might ascribe the symptoms entirely to diabetes and overlook any pathology going on in the urinary tract proper.

Dr. Hussey: I would like to ask Dr. Sprague and Dr. Chapian if in the event of unsuccessful attempts at cystoscopic examination, an intravenous urography might not have been of some value.

Dr. Sprague: I think that an intravenous would have been of value in the case but her condition was so bad that anything done to her seemed to be breaking down whatever resistance she might have. It has been my experience on diabetic cases which have frequency, urgency and extreme vaginitis accompanying it, that these symptoms have cleared up after insulin and proper dietary regime.

Dr. Shaw: Can you explain the blood sugar? It was down to 43. Did she have insulin shock?

Dr. Kenney: No. Many times patients get down that low without insulin shock; it is not necessarily so. It is surprising how low they can get without an insulin reaction. I have several cases now, and have had a number of cases come in in the last year or two where the doctors have sent them in here to have an amputation. Where there is no infection of the soft tissue, we do not go ahead and amputate until we are absolutely sure that we cannot get them sugar free. Rabinowitz one of the best men in diabetes, and who has a vast experience, feels that in these cases, if you can make your patient sugar free and keep him sugar free fairly rapidly, this patient will clear up. The way to treat a diabetic with protamine insulin is to keep this patient sugar free in the morning. A diabetic with infection you can give patient protamine insulin and follow along with old insulin at noon and night; if necessary, more than that. You must keep that patient sugar free. If you give a patient over 40 units in the morning you may find that this patient requires more than 40 units. You can bring a patient way down without any insulin shock.

Dr. Shaw: You are referring to patients with diabetic gangrene?

Dr. Kenney: I have a patient a woman whom I have followed along for five years (Mrs. P.). She had a fairly good ostomyelitis. The woman now is able

to walk without even a cane. She is down to 20 units of regular insulin, took her diet religiously and has no trouble.

Dr. Kenney outlined the routine on diabetic cases admitted to the Medical Service of this hospital, stating that it has corrected the return of patients shortly after discharge with sugar again. The patient is given instructions as to diet and aftercare on the ward before leaving the hospital.

Dr. Benjamin: Dr. Hussey asked why intravenous urography was not done in this case. Nevertheless, it should be kept in mind that this is exactly the type of condition where a retrograde cannot be made, intravenous urography is a great help and usually has very few contraindications.

Regarding arteriosclerosis in the roentgenograms of the feet. I think that the clinical interpretation of an x-ray finding of arteriosclerosis has to be taken with a certain degree of caution. I do not think that a patient's arteries are more abnormal than any other patient of that age. If we took every diabetic 50 years or over, we would find a certain amount of sclerosis anyway. That is what happens in the diabetic. It is not the intima nor the adventitia of the blood vessel, it is the media and the external and internal elastic membrane in that blood vessel that become calcified. Very often the patient has pain due to the increased pressure and is referred particularly to the legs. They don't get the elasticity. Finally, when it hardens altogether that is when you get the gangrene. You would have to take that into consideration clinically.

Dr. Hussey: The mere fact that you find a vessel does not give the size of the lumen. You cannot tell if it is plugged or not.

Dr. Benjamin: The only method that is coming into usage is arteriography, by direct injection of the arteries. When an amputation is to be considered and the surgeon wants definite information, it can be obtained by arteriography.

Dr. Kenney spoke about Professor McMann at the New England Medical Center who has been measuring these blood vessels in different parts of the body and is doing particular work on the renal blood vessels, measuring the lumen post mortem or at any time that he could do it. He is trying to get a system where he can tell the lumen of these vessels.

Dr. Hussey: I was wondering if the intravenous urography could not have been done on 11/4/39 when the cystoscopy was done.

Dr. Kenney: Perhaps her condition became such that he could not do it. That would have been the time to do that.

Dr. Chapian: An intravenous might have given some valuable data right after the cystoscopy.

Dr. Kenney: The autopsy findings on this case were: Chronic passive congestion of the spleen and liver; hypostatic pneumonia; diffuse papilloma of bladder; hydro-ureters; and hydronephrosis, bilaterally.

PROVIDENCE MEDICAL ASSOCIATION

December Meeting

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, December 2, 1940. The meeting was called to order by President John G. Walsh at 8:35 P. M. The Secretary read the minutes of the preceding meeting which were approved as presented.

The Secretary reported for the Executive Committee as follows:

That in accordance with the By-Laws whereby it is required that the Executive Committee "shall act as a nominating committee and present at the meeting next preceding the annual meeting a list of officers to be elected at the annual meeting. Any counter nominations from the Association must be in writing signed by ten members of the Association, and delivered to the Secretary at least ten days prior to the Annual meeting."

Therefore the Committee proposes the following slate of officers for the year 1941.

For President: Murray S. Danforth, M.D.

For Vice President: Henry E. Utter, M.D.

For Secretary: Frank B. Cutts, M.D.

For Treasurer: William P. Davis, M.D.

To Executive Committee, for terms of five years each: John G. Walsh, M.D.; Patrick I. O'Rourke, M.D.; *to fill unexpired term of Dr. Frank B. Cutts, three years:* William B. Muncy, M.D.

For Trustee of the Rhode Island Medical Library, for one year: William P. Buffum, M.D.

For Councilor to the Rhode Island Medical Society, for two years: Alex M. Burgess, M.D.

For Delegates to the House of Delegates of the Rhode Island Medical Society: Drs. Daniel V. Troppoli, Maurice Adelman, Francesco Ronchese,

George F. White, Meyer Saklad, John A. Hayward, Harry C. Messinger, Ernest W. Bishop, Charles L. Southey, Henry F. McCusker, William P. Buffum, James Hamilton, John C. Walsh, Merle M. Potter, James H. Fagan, Kalei K. Gregory, Walter S. Jones, David Freedman, Raymond F. Hacking, Murray S. Danforth, Frank B. Cutts, Ralph DiLeone, Joseph B. Webber, Frank J. Honan, Clarence E. Bird, and Robert H. Whitmarsh.

The motion was seconded and passed that the report of the Executive Committee be accepted.

The Secretary reported that the Executive Committee recommended for election to active membership the following men:

Irving Blazar, M.D.
James H. Crowley, M.D.
Phyllis A. Moola, M.D.
Angelo G. Valentino, M.D.
George L. Wadsworth, M.D.

On a motion from Dr. Jesse P. Mowry, which was seconded and passed, these men were elected to membership.

The President announced the appointment of the following obituary committees: To prepare the obituary of Dr. John J. Kenney, William McGuirk and William S. Streker; and to prepare the obituary of Dr. Thomas J. Smith, John E. Donley and Charles F. Gormly.

Dr. Adolph Eckstein reported two unusual cases. The first was a case of erysipeloid in a butcher, due to bacillus of swine erysipelas, the second was a case of tularemia occurring in a rabbit hunter.

The President introduced as the guest speaker of the evening Dr. Shields Warren of Boston, who presented a talk on "Medico-Legal Aspects of Malignant Diseases." The presentation of Dr. Warren was discussed by Drs. Herman C. Pitts, Peter P. Chase, Isaac Gerber, John C. Ham, and J. S. Kelley.

The President announced that the Rhode Island Nutrition Association will hold a meeting on December 10 at 8 o'clock, at the St. Joseph's Hospital Auditorium. A speaker from the Boston Dispensary will discuss "Food Allergy."

The meeting adjourned at 10:30 P. M.
Collation was served
Attendance 130

Respectfully submitted,
HERMAN A. LAWSON, M.D., *Secretary*

THE MEMORIAL HOSPITAL

At a combined meeting of the Worcester City Hospital and the Worcester District Medical Society, held at the Worcester City Hospital on January 8, 1941, the following program was presented by members of the Staff of the Memorial Hospital:

1. *Medical Management of the Preoperative Phase of Biliary Tract Disease.*
   Dr. John F. Kenney, Chief of the Medical Division.
2. *Anesthesia, with Special Reference to Surgery of the Biliary Tract.*
   Dr. Meyer Saklad, Chief of the Anesthesia Division.
3. *Surgery of the Biliary Tract with Special Reference to Ductal Calculus.*
   Dr. Frederic V. Hussey, Chief of the Surgical Division.
4. *X-Ray Studies of the Biliary Tract with Special Reference to Ductal Calculus.*
   Dr. E. W. Benjamin, Roentgenologist.
5. *Postoperative Management Following Biliary Tract Surgery.*
   Dr. Eliot A. Shaw, Senior Asst. Surgeon to the Memorial Hospital.

CHARLES V. CHAPIN HOSPITAL

Internships were completed on December 31, 1940 by Drs. Richard Rice, Walter F. Crosby, and Wilbur B. Manter. Dr. Rice begins internship at the Rhode Island Hospital in March and Dr. Crosby started service at the Worcester City Hospital the first of the year.

Dr. Manter, who was here for three months, begins a Rhode Island Hospital internship in February. He attended Bowdoin College and Columbia University College of Physicians and Surgeons.

Dr. John H. Bloombergh began an internship on October 1. He attended Harvard and received his medical degree from Tufts College Medical School in 1939. He was then at the Newton Hospital in Massachusetts for one year. He was to have served a six-month period but left early in January to take an Army appointment.

Dr. Edward L. Smith, a graduate of Yale University and Harvard Medical School, came from the Rhode Island Hospital on November 1 for a service of five months.

On January 1, Dr. Joseph Caplan of Brooklyn, New York came from the Long Island College Hospital to affiliate for three months. He is a graduate of the College of the City of New York and Long Island College of Medicine, 1937.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

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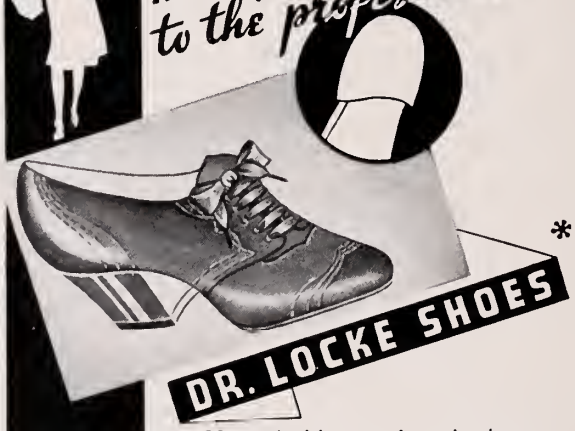

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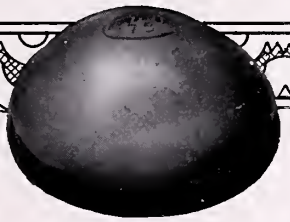

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1941

The Trustees of the Fiske Fund announced at the annual meeting of the Rhode Island Medical Society, held in June 1940, that they proposed the following subject for the year 1941.

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For the best essay on the subject worthy of a premium they offer the sum of two hundred and fifty dollars ($250.00). Every competitor for the premium is expected to conform with the following regulations, namely:

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STATUS OF THE MEAD JOHNSON VITAMIN A AWARD*

Meeting in New York June 4, 1937, the Judges stated that the presentation of the Award "at this time is not warranted since no clinical investigation on vitamin A has yet been published which completely answers any of the objectives of the original proposal. The Judges, therefore, agreed to defer further consideration of the granting of this award until December 31, 1939. This action was taken because of the existence of pronounced differences of opinion among investigators as to the reliability of any method yet proposed for determining the actual vitamin A requirements."

On November 19, 1940, the Judges met at Memphis and stated that "considerable progress in research with vitamin A has been made, principally along two main lines of endeavor. The fields showing most promise are those involving dark adaptation and blood serum studies. The Judges feel that there is still too much uncertainty about the relative merits of several investigations to warrant making the award at this time. It was, therefore, agreed that the giving of the award be postponed until clear resolution of various factors is achieved."

The sum of $15,000, called for by the Main Award, remains as a cash deposit in escrow with the Continental Illinois National Bank and Trust Company of Chicago, and will be paid immediately upon official notification of the Judges' decision.

*$15,000 Award for Clinical Investigation. There was also a $5,000 Award for laboratory investigation, which was awarded by the Judges April 10, 1935, one-half to Dr. Karl E. Mason, Vanderbilt University and one-half to Dr. S. B. Wolbach, Harvard University. Full information will be found in the J. A. M. A., Jan. 30, 1932, May 12, 1934, Apr. 27, 1935, Oct. 23, 1937.

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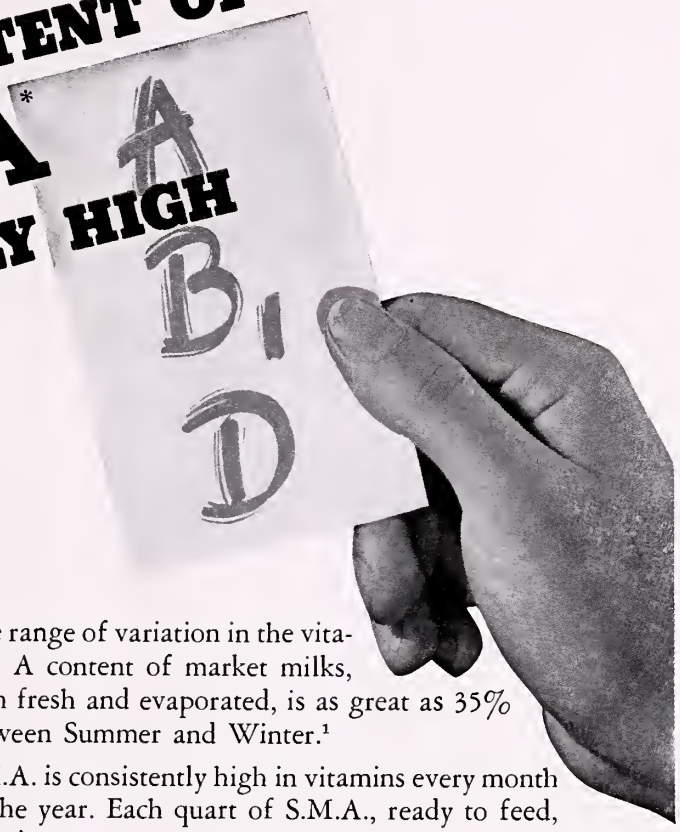

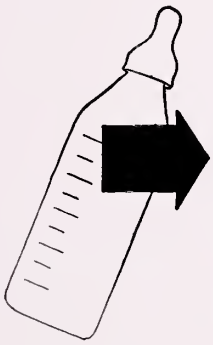

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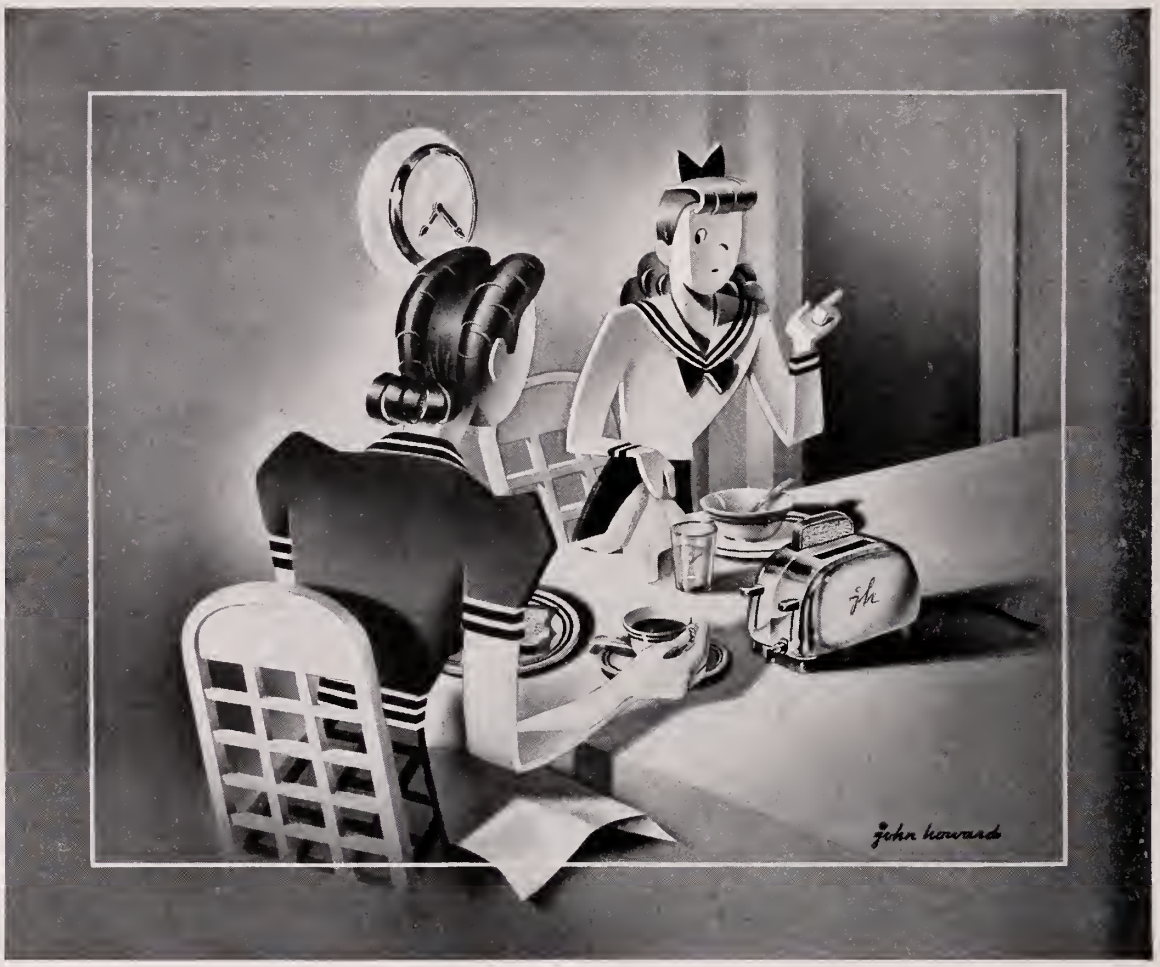

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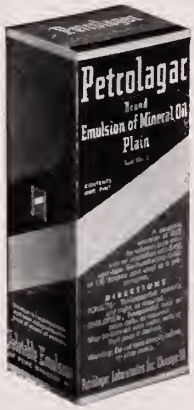

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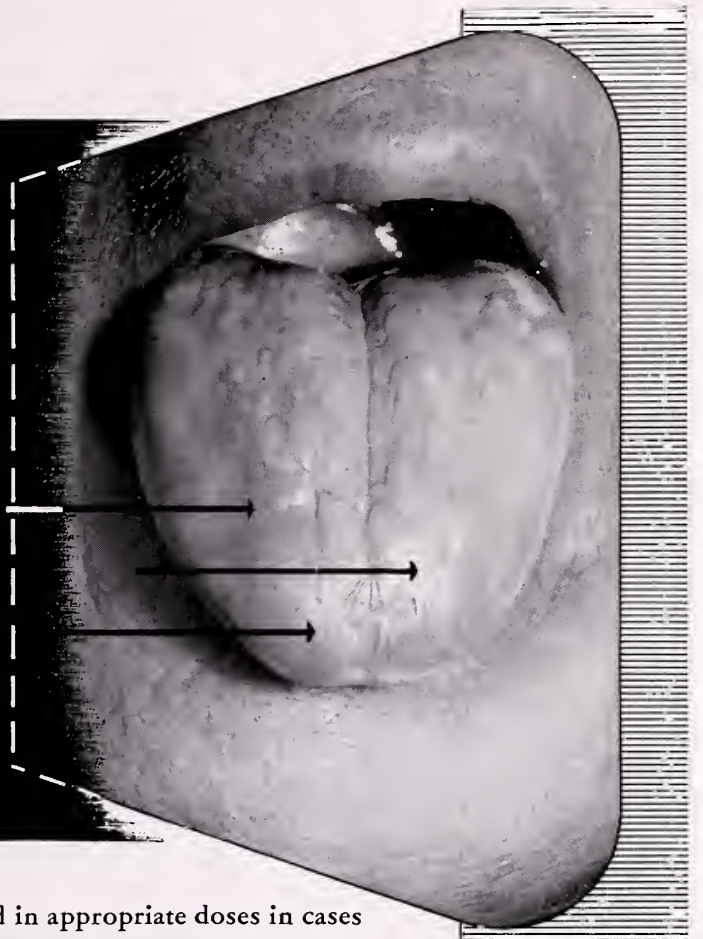

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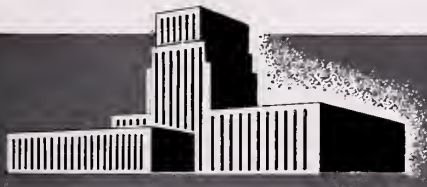

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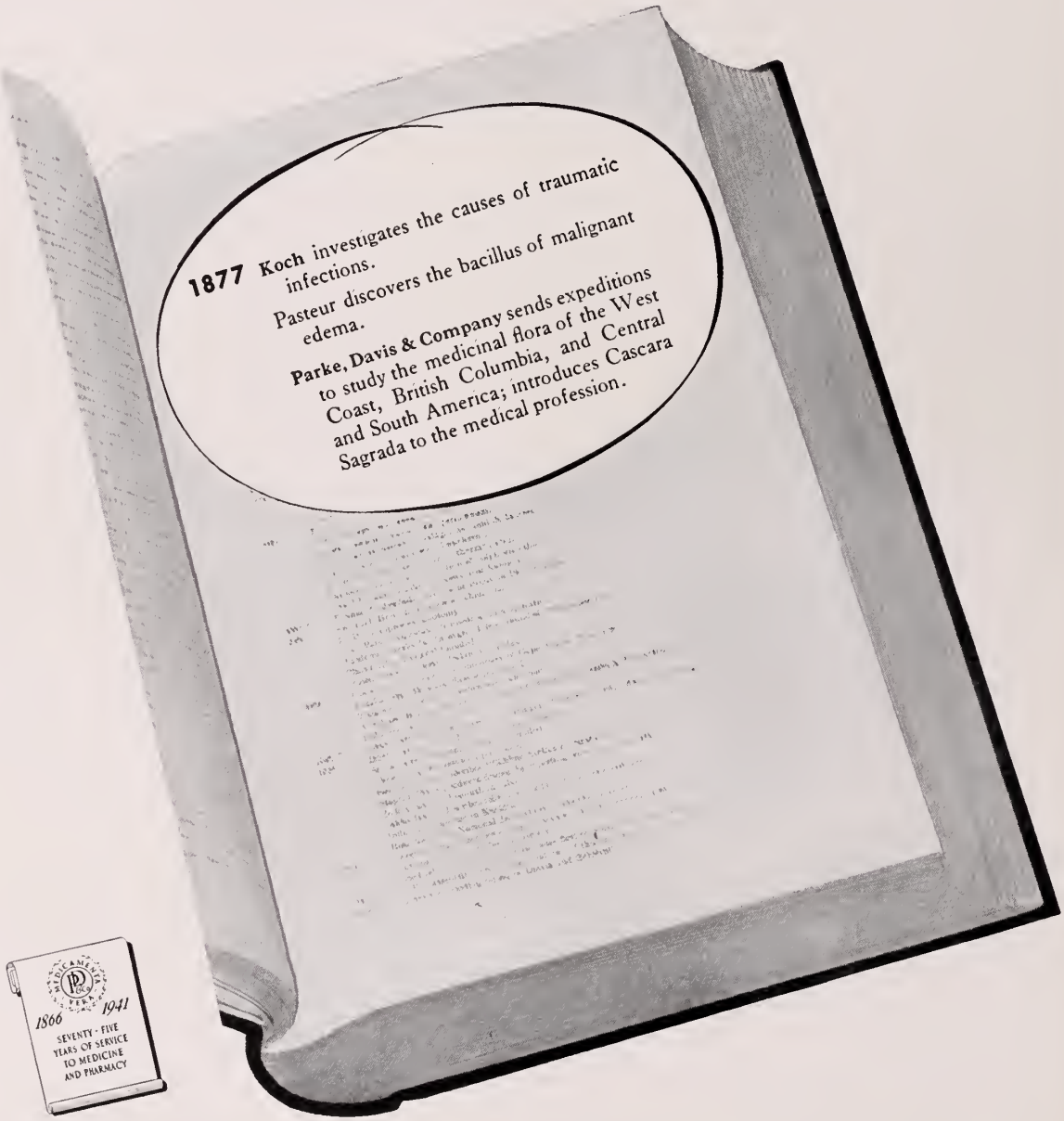
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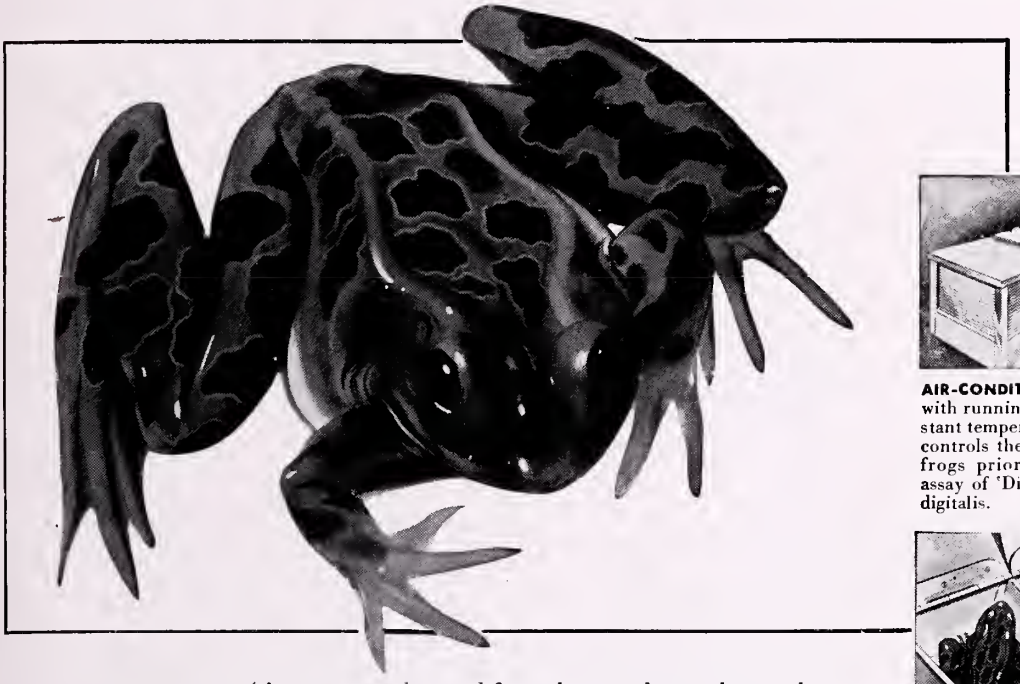

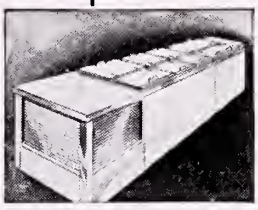

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[1] Sevringhaus, E. L., and Evans, J. S.: *Am. J. M. Sc.* 178:638, Nov. 1929.
[2] Novak, Emil: *Surg. Gynec. & Obst.* 70:124, Jan. 1940.

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In this concise manner, Nicholas Appert, discoverer of canning, summed up the salient features of his procedure. Appert's method consisted of sealing prepared foods in wide mouth glass bottles with corks and processing the sealed bottles in a bath of boiling water. The first English edition of his book (1) describes Appert's procedures for some fifty products. While the times of his heat processes varied between products, the temperatures of the processes were uniformly that of boiling water.

After the spread of commercial canning to America, early canners soon found that spoilage frequently resulted when Appert's heat processes were employed. Increasing the time of process at 212°F. alleviated but did not entirely control this difficulty. As recently described (2a), attempts were next made to increase the temperature of process, either by the addition of soluble salts to raise the boiling point of water, or by the use of the autoclave which permitted processing under steam pressure at temperatures above 212°F. About 1874, an improved type of autoclave was invented in the United States and gradually came into general use for certain types of products. While this device reduced spoilage considerably, losses still occasionally resulted due to inadequate heat processing.

Between 1895 and 1900, the new-born science of bacteriology was first applied to the canning industry. These early discoveries are well described elsewhere (2, 3); important among the findings was the fact that for products most favorable for growth of spoilage organisms, there is a minimum time of process which must be applied at a given temperature for a given can size, if preservation of the food is to be assured. The need for standardization of heat processes was thus clearly indicated.

During the past twenty years, the heat processing of canned foods has truly been placed on a sound scientific basis (4, 2b). The natural acidity of the food now determines the process temperature to be used. Foods with pH values below 4.5 may be safely processed at 212°F. or below; the "non-acid" foods with pH values above 4.5 require elevated process temperatures, 240°F. being the temperature most widely employed.

Today, adequate heat processes for non-acid foods are mathematically calculated using data which take into consideration all factors influencing the sterilizing value of a process. Processes thus calculated are thoroughly tested before being incorporated into bulletins of recommended processes which modern canners follow (5).

This establishment of adequate heat processes—particularly for the non-acid foods—is one of the greatest advances in canning technology made in the history of the industry. Today, it is apparent that the success of many of Appert's heat processes was due to fortuitous circumstances. The modern consumer, however, has the assurance that commercially canned foods are among the most wholesome foods reaching his table.

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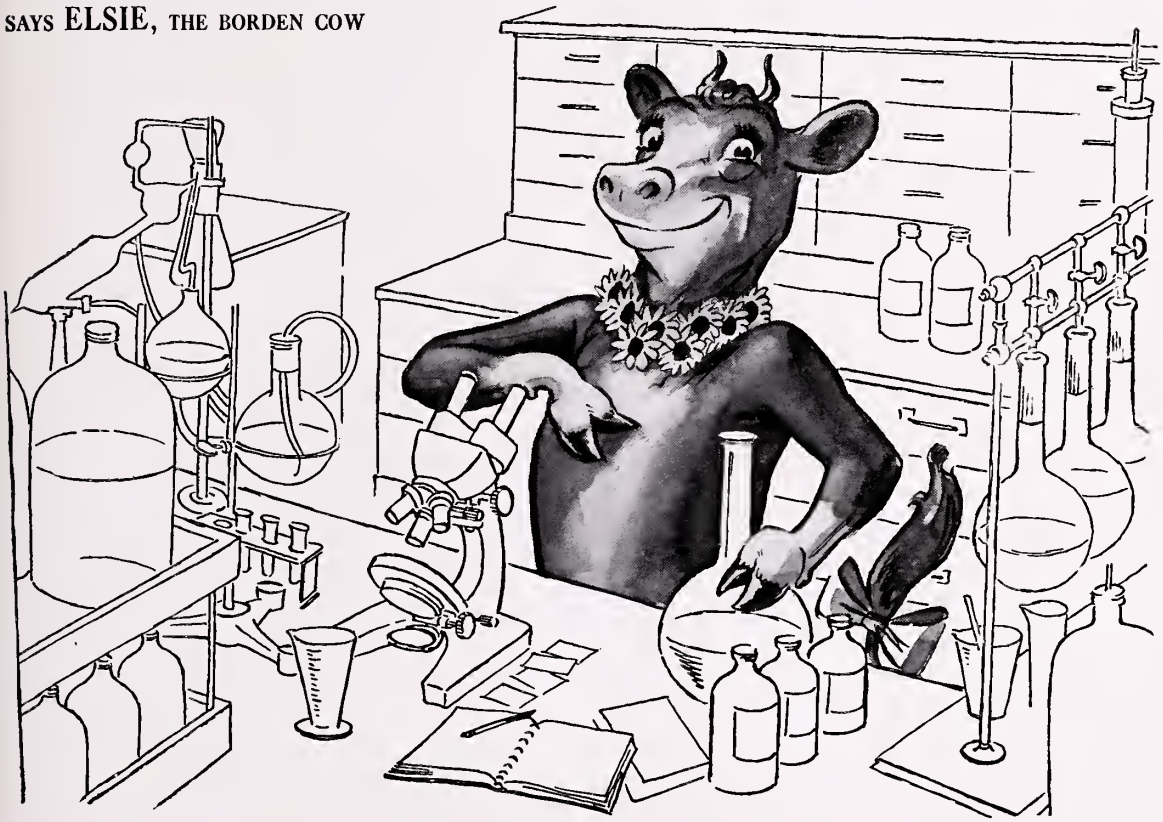

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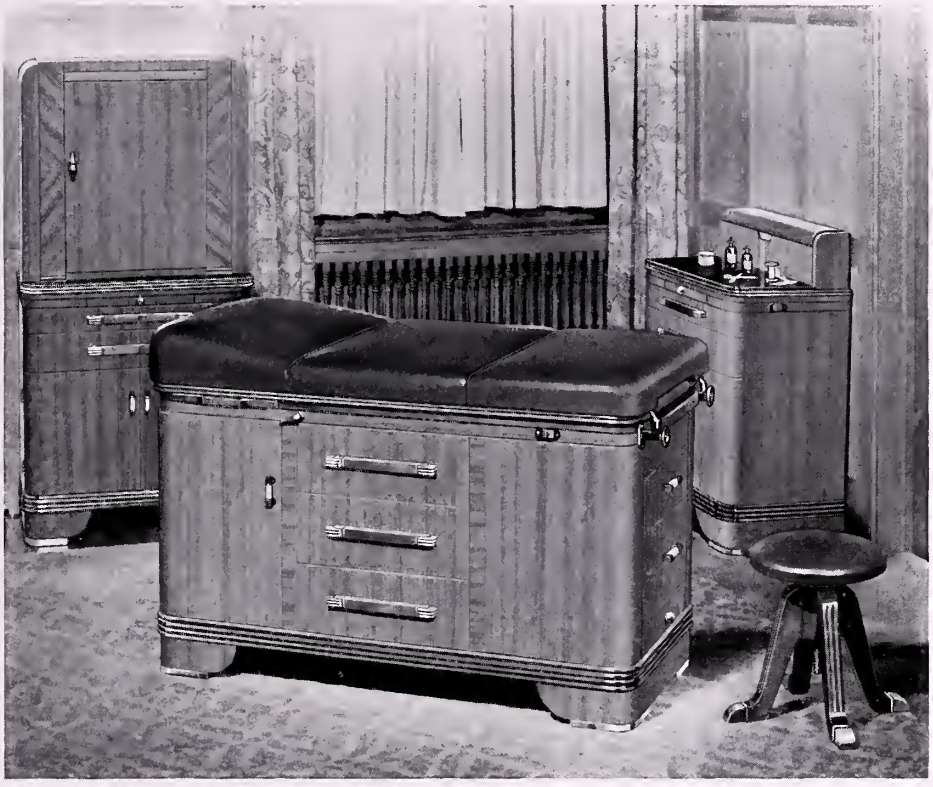

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NUTRITIONAL ASPECTS OF PREGNANCY

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171 Angell Street, Providence

In looking over numerous old obstetrical text books of the past hundred years, the standard books of their day, it has been interesting to note the unanimity of thought and the meagerness of expression of their authors on the subject of nutrition in pregnancy. Typical of the brief treatment accorded this subject is that of Lusk who wrote that "the dietary should embrace all nutritious and easily digested articles of food." Winkle as translated by Edgar was more verbose in saying that "the quantity of nourishment should be moderate, . . . the food should not be too rich, though not lacking in quality. It should be divided up into a greater number of meals." Cragin as recently as 1917 covered the subject by suggesting that the patient be allowed to select her diet according to her taste "which will often vary greatly from that when she is not pregnant."

These authors agreed that the diet in pregnancy should be ample in quantity and adequate in quality, and with that very broad generality the student or practitioner was left to decide for himself and for his patients what "adequate in quality and ample in quantity" meant. Perhaps, after all, that advice was not so bad for those days. We are better able to define or amplify those terms only because of the work of hundreds of investigators since their day. Of our alphabetical knowledge of the vitamins, of our relatively recent and still very scanty knowledge of blood and tissue chemistry, and of cellular physiology our grandfathers knew little or nothing. However, in those days food was food. Food was then quite likely to be what it appeared to be. Bread was a real staff of life which could be leaned on and not the frail prop which too often passes by the name of bread today.

Moralists, economists, sociologists, and anthropologists have a way of harking back to a Golden Age when the world was young, when man and his surroundings were natural and unspoiled, when all things were as we imagine they should be. We know that there never was such an age. We know that primitive man was a pretty horrible creature, ugly, hairy, and but little above the beasts with whom he often had a difficult struggle for a place in the sun or a place at the dinner table. But what food this Peiping-Java-Piltdown-Neanderthal individual was able to knock down, ensnare or uproot was not robbed of its nutrient properties by refining, degerminating, polishing, pasteurizing, sulphurizing, gassing, or otherwise despoiling before it was eaten. And his taste though it was primitive or because it was primitive was to be relied on. His vitamins were not boiled out of his vegetables and poured down the sink. His meat eating habits would not permit him to get by in any modern society except perhaps among the Hottentots for he did not discard anything but the horns, hoofs, and bones, and he even picked the marrow from these. The blood and parenchymatous organs upon which we turn our backs or even our stomachs were his choicest cuts, and we know that from a nutritional standpoint he was wise in his omnivorousness. Habit and custom, local or racial, have often worked to civilized man's dietary disadvantage.

Our anthropological confreres tell us that as anatomical specimens we are not as good as we used to be in the brave days of old when man was subject to the laws of natural selection and the survival of the fittest. Civilization is said to have thrown a monkey-wrench into the machinery of evolution. Tastes are now no more to be trusted than are the foods upon which we may exercise these tastes.

Pregnancy, you may say, and I will agree with you, is a normal physiological function. Why then do the dietary requirements of this normal function merit our special consideration? In the first place, the patient's food habits may never have been good. The patient for economic reasons may not have free choice in her diet. Because of anorexia or vomiting she may not take or retain sufficient food. During pregnancy some of the normal physiological functions border closely upon the pathological. In the second place the pregnant patient is unique in that she harbors a parasite, the

Given at Providence Lying-In Hospital, February 7, 1940.

growing fetus. We are concerned not only with the dietary requirements of the host but with those of her guest. The patient may be in metabolic balance normally but not when the fetal requirements are added. The situation is further complicated by the fact that as the fetus develops its requirements of food for growth, for energy, and for storage change.

In our discussion we shall assume that the mother is able to assimilate the food she eats. If she is unable to do this, even if eating in abundance, it is as though she were on an inadequate diet. In this case the fetus does not suffer from want though the mother may, for it is parasitic and has first claim on what food is ingested or has been stored in the maternal organism. We must also assume that the placenta is normal and able to function in transmitting all the food elements from the maternal to the fetal circulation. Otherwise, in spite of an abundance of food material circulating in the maternal blood-stream, the fetus will be malnourished.

During the first three months of pregnancy there is a slight fall in the basal metabolism. Thereafter the metabolic rate slowly increases. This increase is probably chiefly due to the additional tissue of the fetus, and to a smaller degree to the increased mass of maternal tissue. The increase in rate is variously given but seems to be in proportion to the fetal surface and to reach a maximum of plus 25 shortly before the end of pregnancy. The gain in weight in pregnancy averages about 18%. If this were an ordinary gain in weight it would account for only about 5 of the increased metabolic rate. The rest of the plus 25 is due to the fetal tissues and the adnexae of the mother which have a higher specific metabolism per unit of weight.

In other words, a woman needs more food when pregnant. By some of her doting and ill-advised relatives she is told that she must now eat for two. She is told by others that she must eat sparingly to keep the baby small. Both admonitions are wrong. I may disgress for a moment to lay the ghost of Prochownick's diet. If ever there was an instance of one swallow's making a summer this is it. From an impressive series of three patients whose intake of food he greatly restricted in the last six to ten weeks of their pregnancies Prochownick deduced that by cutting down on the mother's food for the last two months of pregnancy the baby's weight at birth could be kept below average. This can be disproved no more conclusively than by what may be regarded as an unintentional experiment on a large scale in 1914. The experiment is now being repeated. With the whole population on a restricted diet during the war, German babies did not show the lowered birth weight which Prochownick had decreed would result. In this they were only true to their parasitic role. Probably much harm has resulted from such restricted diets. However, if the mother is overnourished, or if, as in the case of an uncontrolled diabetic with elevated blood sugar, there is an overabundance of available nourishment, the fetus is very likely to be overnourished and overweight. For this and other reasons, the esthetic being the one that the patient is most likely to pay heed to, the patient's weight should be kept within the average gain of eighteen to twenty-two pounds, unless she is underweight at the start. During pregnancy the patient needs more of every type of food, but especially more of the energy foods, of proteins, of vitamins, and of the minerals, calcium, phosphorous, and iron. A good distribution is protein 15%, fat 25%, and carbohydrate 60%.

The PROTEINS should preferably be those of high biological value, the complete proteins, containing all the amino acids. These are especially the animal proteins, meat and milk. Gelatine which is being touted as a pep food is of the type of incomplete proteins which lack certain of the amino acids required for growth. Proteins are needed to maintain the nitrogen balance, to maintain the loss of maternal tissues, to furnish the nitrogenous elements for fetal growth, and to build up a protein reserve for the increased demands of lactation. A daily intake of 0.5 to 0.7 grams per kilo of body weight is necessary although a more generous 1.0 gram per kilo is better. Protein eaten is spared by combining with adequate energy foods.

Except in the case of those nephritics with nitrogenous retention in the blood there is no good reason to limit the intake of protein below the patient's customary habits if these are normal. In fact, the patient with albuminuria has probably been malnourished in the past by such restriction and has had a secondary anemia added to her other troubles. Such protein restriction results in serious disturbance of serum protein constituents. Strauss has contended that a low protein diet might even be the cause or contribute to the toxemia of pregnancy because he found that such toxic edematous patients had a low serum protein and were benefited

by a high protein diet with vitamin B_1. Diekmann has not been able to duplicate these findings and results except in patients with nephrosis. To show the swing of the pendulum away from protein restriction in a dramatic way I can recall a patient, a violent eclamptic, whose convulsions were controlled by sedation and dehydration who on the day following delivery when she had roused from coma, ate with enjoyment and no ill effects a steak which would have satisfied a stevedore. To have permitted that twenty years ago, would have been considered malpractice.

In the first trimester the ingestion of CARBOHYDRATES frequently and in small amounts seems more than any other measure to control the nausea and vomiting of early pregnancy. Why this is so I do not fully understand. The metabolism then is no higher or is even slightly lower than normal and the energy requirements would not seem to be increased. At any rate, empirically it is true that such patients are helped. Of course, in the presence of an acidosis from starvation or severe vomiting there is rational ground for the use of sugars and starches. There does appear to be a disturbance of carbohydrate metabolism in pregnancy. A glycosuria is then easily induced. A sufficient amount of carbohydrate in the diet acts to spare the more expensive and more necessary proteins.

FATS appear to play no role in pregnancy except to supply energy and to act as carrier of vitamins A, D, E and F. An overabundance probably does nothing to the patient but make her and her baby obese.

Our knowledge of the next group of foods to demand attention, the VITAMINS, is still hardly beyond the stage of empiricism. Our patients often, and the detail men of the medical supply houses always, know as much or more about these food elements than we do.

Of vitamin A, we can say that it influences fertility and hence, in a roundabout way, is of importance in pregnancy, that it aids growth, and that the body's resistance to infection, especially when attacked through the mucous membrane, is aided by this element. It is found chiefly in green vegetables. In pregnancy 9,000 units are recommended daily. A good diet averages about 3,000 units which would seem to indicate that all pregnant women average only one-third of their needed vitamin A.

Vitamin B_1, thiamin, the anti-neuritic factor, seems to be important in carbohydrate metabolism. With the increase of carbohydrate in early pregnancy to control nausea the B_1 in the diet should be increased. This vitamin appears to aid the anorexia of early pregnancy and to tone up the intestinal tract. It is specific in the polyneuritis of severe cases of hyperemesis and may be given parenterally when not tolerated by mouth. In lactation it is essential and five times the normal amount is said to be optimum then. Vitamin B_1 is chiefly found in leafy vegetables, legumes, tomatoes, citrus fruits, yeast, glandular meats, egg yolk, and whole wheat breads.

Vitamin C, ascorbic acid, influences the development of the infant's bones and teeth. When the mother's diet is deficient in this factor, the baby may be born with scurvy. This vitamin is found in leafy vegetables, uncooked cabbage, citrus fruits, and tomatoes. 75 mg. daily or 1,500 international units is the daily intake which is considered desirable.

Vitamin D, calciferol, the sunshine vitamin, maintains or controls the normal calcium and phosphorus metabolism of mother and fetus. Calcium deficiency, premature births, and birth trauma seem to be associated often. The soft skull of the poorly ossified premature baby, instead of making birth easier and safer because of ease of molding, does the opposite. Birth injuries are more frequent among these premature infants. At least the normal degree of ossification seems to make birth safer. During the months of June, July and August in this latitude the ultraviolet light of sunshine is efficient in forming this vitamin within the body by its action on the skin. It is found in egg yolk, fatty fish, and in some fish oils. 350 to 400 units daily are normal requirements.

Vitamin E, alpha tocopherol, the anti-sterility vitamin, may have some value, or at least has been advocated, for use in cases of sterility or infertility, in habitual abortion, and even in premature separation of the placenta. This vitamin is so widespread in foods that its lack seems improbable as a cause of early fetal death. Through a specific action on the placenta, fetal membranes, embryo, and hematopoetic structures its lack has been held responsible for degeneration of the placenta and membranes with resultant death of the embryo. The maternal organism seems not to suffer at all from a lack of this vitamin. It is found most abundantly in egg yolk, green vegetables, muscle meat, and whole wheat grains. One preparation of vitamin E made from wheat germ oil has been widely advocated for therapy.

Vitamin K, klotogen, seems to be of no value to the pregnant or puerperal patient but may prove to be helpful to the new born infant with icterus or hemorrhagic disease of the new born, due to a deficiency of prothrombin. It has been suggested that it be given to the mother who has repeatedly given birth to jaundiced babies.

One morning recently a number of doctors were holding forth in a staff room when the question of vitamins in pregnancy came up. One of the group, whose judgment is founded on a wealth of clinical experiences over many years was asked if he gave his patients vitamins during pregnancy. I think his reply is of great value. "Yes," he said after a pause, "I give all my patients vitamins and always have. I give them milk and meat and plenty of vegetables and fruit."

All writers on the subject agree that nothing in the form of concentrates equals or approaches in value natural foods as a source of vitamins. Only for some unusual or abnormal condition is it necessary or useful to add concentrated or synthetic vitamins to a patient's diet if she is able to eat and assimilate foods. All of the needs enumerated above are met by a diet rich in the protective foods: that is, by milk, green and yellow vegetables, fresh uncooked fruits, and a moderate consumption of meat. Deficiencies are due to a limitation of diet to refined cereals, including breads made from such refined grains, to sugar, and to defatted cereals.

Another class of dietary constituents is the minerals. Of chief interest to us are calcium, phosphorous, magnesium, iodine and iron.

If the pregnant patient is deprived of calcium in her food, this mineral is removed from her reserves even to the point where her bones may develop osteomalacia. And in case of marked deprivation the fetus may be born with rickets. Pregnancies frequently repeated along with deficient calcium intake and retention have a cumulative effect so that the later born babies show the deficiency increasingly. The proper metabolism of calcium and phosphorous hinges on more than the presence of ample amounts of these minerals in the diet. Many other factors are concerned. Even worry is said to have an influence. Vitamin D, calciferol, the calcium bearer, is very important in utilizing the calcium ingested and has an even greater influence on the phosphorus. Indirectly, through its role in forming vitamin D, sunshine is valuable. It is known that in sunny Southern climates a pregnant woman can be maintained in calcium and phophorus balance on a much smaller intake than can one farther north. With an abundance of milk in the diet the Ca and Ph intake will be ample, but these minerals may not be absorbed or retained unless the rest of the diet is adequate. The vitamins A, B, C and D and an excess of base-forming radicals, — all have a favorable influence in this. A great excess of either Ca or Ph over the other favors the loss of the one smaller in amount. The best ratio of Ca to Ph seems to be 1 : 1.5. Because of the abundance of Ph in proteins there is no lack of this mineral if the protein in the diet is sufficient. Calcium is found most abundantly in milk and milk products, and also quite plentifully in leafy vegetables. Sherman gives the figures for maintenance as a daily average of 0.45 grams of Ca and 0.88 grams of Ph. Since a quart of milk contains slightly over one gram of calcium and slightly less than one gram of Ph, this quantity of milk daily, together with the Ca and Ph from other sources gives a very generous margin of safety over the above figures. The expression, "For every child a tooth," should no longer be true with good dental supervision and a better recognition of the need for the proper retention of Ca and Ph.

Magnesium requirements are met automatically with Ca and Ph, for it is always associated with these. The normal daily need is 0.4 gram in late pregnancy.

In the case of IRON the fetus typically shows its parasitic nature. The baby born of an anemic mother has at birth a normal hemoglobin reading and normal red cell count. However, such a baby born of an anemic mother lacks the reserves of iron which normally are present to carry it through lactation, during which its ingestion of iron is insignificant, and until iron containing foods are added to its diet. Such babies soon become anemic. This danger of postpartum anemia in the new born is one excellent reason for preventing or correcting anemia in the mother. The new born infant normally has three times as much iron in proportion to body weight as the adult. The total iron in the adult is only 3.0 grams. 10 to 12 mg. of food iron ingested daily is sufficient though 15 mg. is standard and insures adequate retention by mother and fetus. The absorption of iron may be impaired when a gastric anacidity exists. 0.5 gm. daily of ferrous sulphate will correct a secondary anemia.

In the last trimester there is 25% increase in the volume of blood and 20% increase in the total number of red blood cells in the body. Because the blood volume is increased relatively more than the total red blood cells there appears to be an anemia. This hydremia or dilution disappears postpartum and the hemoglobin reading returns to normal. For this reason a reading of Hgb of 80% is not unusual in the last several months of pregnancy. Liver does no good in correcting the usual secondary anemia and is needed only in the treatment of the macrocytic or pernicious type. Let me repeat that it is desirable to watch for and correct an anemia in the last trimester as much for the baby's sake as for the mother's.

In the goiter belt it is necessary to insure an adequate iodine content in the diet. Along the coast the abundance of iodine in our milk, vegetables and fruits, and especially in our sea foods makes such precaution as using iodized salt needless.

We have to consider only one more factor in the diet, an indispensable one, WATER. Habits of water drinking vary tremendously. The kidneys can function well with a surprisingly low intake of water. With an abundance of milk, fruit, and green vegetables it is not necessary to insist on an increase above the patient's customary amount unless this is far below normal, and then perhaps only as an aid in correcting constipation or for some other reason not connected with the metabolism. The metabolism of water, the regulation of water balance, is beyond the scope of this paper, and when it becomes fully understood may give the long sought answer to the search for the cause of toxemia of pregnancy and eclampsia.

As to the ingestion of other drinks, tea and coffee may be taken as usual. About alcoholic drinks I think it fair to say, without entering into a controversy with anyone who may want to differ on a question which is often debated by the emotions rather than by the intellect, the usage should be as moderate, as temperate, as the ingestion of food. With a tendency to acidosis and to gastric hyperacidity it will probably be well for the patient to take less than usual. I think that ought to satisfy all schools of thought.

We ought to consider briefly the early postpartum period, especially lactation and the special demands which this makes on the mother. A diet in the last trimester sufficiently abundant in protein to insure nitrogen storage is advisable for successful lactation. During lactation abundant protein with vitamin B is requisite. The animal proteins, milk and meat, are most satisfactory. Carbohydrates do not increase the milk yield but do add slightly to the fat content of the milk. Fat in the diet increases only slightly the amount of milk but does increase the fat content. Four times the amount of Ca and Ph secreted in the milk must be ingested to maintain these minerals in balance in the body. This emphasizes the importance of the patient's having a reserve stored up in the last trimester in anticipation of this postpartum demand.

I should like to emphasize that the last trimester of pregnancy is especially important from a dietary standpoint. By proper supervision the mother may be protected, and, what is equally important, the fetus may be spared from congenital or neo-natal rickets, scurvy, hypoplasia of the teeth, tetany, and anemia. Prevention here is much easier than is cure.

In conclusion I can only repeat what I wrote at the start. All ancient and modern authorities agree that the diet of the pregnant woman should be plain, simple, easy of digestion, highly nutritious, and partaken of at regular intervals. In a word, as Lusk said, the diet in pregnancy should be "ample in quantity and adequate in quality." We do know better than did Lusk what those words mean.

ERYSIPELOID

REPORT OF CASE TREATED WITH X-RAY AND SULFANILAMIDE

ADOLPH W. ECKSTEIN, M.D., F.A.C.S.
76 WATERMAN STREET, PROVIDENCE, R. I.

Swine erysipelas has been prevalent in Europe for a long time. It was first recognized as a definite entity and differentiated from anthrax in 1882 by Pasteur[1] and his co-worker, Thuellis, who first described and prepared a successful vaccine from organisms isolated from characteristic cutaneous lesions. The vaccine was prepared by serial passage of the organisms in rabbits, which these authors observed decreased its virulence for swine. While organisms so prepared are attenuated for swine, they still are virulent for man, and very severe in-

Presented at the meeting of the Providence Medical Association, December 2, 1940.

fections have been reported in veterinarians accidentally infected with such cultures. The disease in swine has been described in detail recently by Van Es and McGrath.[2] From their clinical and pathologic studies they have divided this disease roughly into an acute form and several chronic manifestations. Briefly, in the acute form of the disease the picture is that of acute sepsis, with fever, loss of appetite, patchy ecchymotic discolorations of the skin and painful swelling of the joints. Death may result from increasing respiratory distress with pulmonary edema in from one to four days, or the acute symptoms may completely subside. The mortality in this form ranges between 50 and 100 per cent.

The chronic forms of infection may be continuous with the acute attack or may insiduously manifest themselves after several weeks of apparent good health. Chronic proliferative arthritis frequently with osteitis, an urticarial cutaneous inflammation commonly called "diamond skin," and bacterial endocarditis are the most commonly recognized chronic manifestations. Post-mortem observations on animals dying of endocarditis reveal most frequently on the mitral valve, and to a less extent on the aortic valve, large, wartlike or cauliflower appearing reddish yellow vegetations. The vegetations in all instances show a marked tendency to attack and invade the mural endocardium.

The infection is commonly acquired through the gastrointestinal tract, but infection from skin abrasions is known to occur.

The causative organism, erysipelothrix rhusiopathiae (suis),[3] is a gram-positive, non-motile, non-spore forming, micro-aerophilic bacillus. There are three generally accepted strains; human, swine, and mouse. It has an unusual dissemination and is found wherever nitrogenous substances are decomposing. It has a tendency to form long branching filaments and is easily cultured in hormone broth and calf brain medium. In putrid material the organism is capable of retaining its viability and virulence for months. The organism is quite resistive. Boiling is immediately effective, but it will resist drying for a month or more, and in salted and pickled meats it will survive for three or four months. The virulence as well as the appearance of the organism can be modified by serial passage through animals and also by culture. Passage through rabbits increases the virulence for this species but decreases it for swine. Passage through pigeons increases the virulence for all animals. Pure cultures can be obtained from the heart blood of inoculated pigeons.

There is evidence at the present time that swine erysipelas is on the increase in the United States.[4] It was first reported in the United States in 1921, at which time there were only a few isolated cases. It steadily increased until 1930, when an outbreak was reported in South Dakota. Since that year the malady has appeared in practically all the states. There is no mention in the literature of its having occurred in the State of Rhode Island. Therefore, when a case of erysipeloid came to my attention, it seemed worthy of reporting.

Erysipeloid is the term first applied by Rosenbach[5] in 1884 to a self-limited skin infection characterized by a slowly progressive, painful erythema beginning at the site of infection and extending peripherally as the central area fades. He observed this infection on the hands of kitchen workers, butchers, and those who handle fish and game.

The disease is now known to be caused by erysipelothrix rhusiopathae, the organism of swine erysipelas, and is identical with the cutaneous infection generally known to the public as "fish-poisoning," acquired from handling either fresh or salt water fish.[6] Its recognition as a significant occupational disease of commercial fisherman, abattoir workers, by Klauder, 1938,[7] and bone cutters[8] has been reported.

Considering the infection in man, it is found, as a rule, that infections occur following abrasions or penetrating injuries of the hands. Infection through the gastrointestinal tract is exceedingly rare, but the case reported by Fissinger and Brouet[9] of infection following the ingestion of infected salt pork leaves little doubt as to the possibility of this route of infection.

Following an incubation period of from one to five days there develops at the site of injury a sharply defined, slightly elevated, zone of erythema with a characteristic purplish red coloration which slowly extends peripherally as the central area fades. The purple red and the slow progression of the infection differentiates it from true erysipelas. Extension above the wrists is rare. Lymphangitis and lymph node involvement with constitutional symptoms are seen only with the most virulent infections. Self limitation with spontaneous recovery in from one to four weeks is the rule. Suppuration is never observed. Attempts to recover the organism

from characteristic cutaneous lesions by the usual methods of culturing small amounts of serum from the wound or aspirated material are always unsuccessful. However, culture of a small section of skin taken from an area of erythema will usually grow the organisms.

The mildness or severity of infection usually suggests the source of infection; this in turn governs the virulence of the organism. Klauder found from clinical observation that the organisms from the following sources in the order stated were the most virulent: (1) partly decomposed fish, (2) live slimy fish, (3) swine, (4) fish in the retail market, and (5) other sources.

Particularly severe forms are seen in veterinarians accidentally infected with virulent cultures. Klauder, Righter and Harkins[6] observed a severe form of erysipeloid disease in commercial fisherman of the Atlantic seaboard which they concluded was comparable to the severe form of erysipeloid disease observed from swine infections. Milder forms have been observed from such sources as old cheese, infected game and commercial meat. Infection has been reported from such unusual sources as from injury to the hand on a stone in a dry creek and later carrying an opossum by the tail wrapped around the injured fingers, from skinning a rabbit and other contacts with rabbits by rabbit breeders, from handling recently thawed fish by an attendant in a zoological garden, from performing an autopsy on a dead animal in a zoological garden, from the sting of a jellyfish, from handling a dogfish which had apparently lain on the beach for a long time and dried thoroughly in the sun, from the prick of a spine of a dried stuffed fish which was mounted and used as an ornament, from infected sheep,[10] and from injury from a fish hook.[11]

Acute and chronic arthritis has been reported, the former as a concomitant complication and the latter as a late sequela of an original cutaneous infection.

The occupational history of handling lobsters is significant as the source of infection in the case of Russell and Lamb,[12] who reported a case of bacterial endocarditis caused by erysipelothrix rhusiopathae bacteriologically proved as a rare fatal complication of erysipeloid infection. Gilchrist[13] in 1903 reported 323 cases caused by crab bites or lesions produced by crabs. An epidemic of 200 cases in which the infection was acquired from cleaning fish has been reported from Odessa.[14]

Klauder states that "Infection can invariably be traced to contact with animals, fish, Crustadea, dead matter of plants and animal origin or matter derived from animals such as hides, pelts, bone, and manure." Klauder also reported six cases involving veterinary students "infected when dissecting a dead horse." Gross[15] gives a report of thirteen cases among veterinary students at Kansas State College, sustained dissecting a dead horse. Brown[16] reports an infection in himself following the scuffing of a knuckle while cleaning a buffalo skull. Ritchie[17] reports one case from handling fish caught in the Great Lakes, and Lawson[18] has reported 210 cases from cattle bones used in making buttons.

As originally described by Rosenbach, erysipeloid infection occurs, in the majority of instances, following slight traumatic injuries beginning as an attack of cellulitis with an erythematous patch, usually on a finger, spreading slowly and developing characteristically a well-defined, slightly elevated, bluish margin accompanied by intense swelling, itching, pain, and tenderness. Associated lymphangitis and lymphadentis are not uncommon. The disease may spread from one finger to another until all fingers or a considerable part of the hand is involved. The incubation period of the disease usually varies from one to four days.

The localized cutaneous form of the disease occurs at the site of an epidermal defect on any part of the skin, usually the hands; it is of variable severity, with or without localized arthritic or constitutional symptoms. The first symptom is pain at the site of inoculation and is followed by swelling and erythema. The most distinctive feature is a sharply defined, slightly elevated zone, which extends peripherally as the central portions fade away. The involved area is swollen and tense as though fluid had been injected intracutaneously. If the finger is involved the swelling and tenseness make movement difficult.

Another characteristic of the disease is its migratory nature; new purplish red patches appear at remote areas. If the infection originally involved one finger, eventually all fingers and the dorsum of the hand or palm or both may become affected, the erythema appearing and disappearing, or extension may take place by continuity. The disease may completely disappear at the areas first involved by the time other areas are affected. The disease involutes without desquamation.

The appearance is not that of a pyogenic infection, with which the condition is frequently confused. The color of the erythema is different, there is no pitting on pressure, and suppuration never occurs, although itching and tingling are frequently present. Pain is the most conspicuous subjective symptom. It is throbbing and burning in character, often preventing sleep.

Treatment of this condition for the most part is conservative but varied. Rest and heat appear to be used by the greatest majority of students of this disease, using either wet or dry heat. Wet dressings and the usual antiseptics are effective. Klauder favors constant wet dressings of twelve per cent ichthammol in alcohol. He recommends repeated erythema doses of ultra-violet with a water cooled mercury quartz lamp. Holman[19] also reports excellent results in the treatment with ultra-violet irradiation. There is available an anti-erysipeloid serum. Klauder states serum is only indicated if the infection persists one month, if its progress is rapid, or if arthritic symptoms are conspicuous. Ingram[20] recommends fractional doses of x-ray. Walker[21] reports one case treated successfully with x-ray.

Report of Case

Clinical History: T. S. a white man aged thirty-five, American, married, a butcher, entered my office October 19, 1940, complaining of severe burning pain and swelling of his left hand of two days duration. The pain was so severe that he spent two sleepless nights. Eight days before he sustained a laceration one-half inch long on the lateral aspect of his left index finger while he was cutting pork. In spite of immediate care the wound suppurated the following day. After treatment with hot epsom salt soaks, the original injury healed on the sixth day. Two days before he came to see me, six days after injury, the finger at the site of injury became swollen, red and extremely painful. This lesion extended from the healed one-half inch laceration at the lateral aspect of the index finger at the metacarpal phalangeal joint over the dorsum of his hand. The following day, nine days after injury, the lesion remained the same but his temperature went from 99.4 degrees on the previous day to 100.8 degrees. But on the tenth day from the time of his injury the lesion extended over his entire left hand, to the dorsum of his right hand, to his face and to his neck. The day he first came to see me he wore an old shirt which was highly starched, stiff and tight around his neck. This uncomfortable feeling around his neck caused him to pick at his collar incessantly during the day. He felt warm so he also rubbed his face with the back of his hand. His temperature was 102 degrees and his pulse was 94. He complained of chills, general malaise, headache, fever, and severe pain in his hands, neck and face. His fingers and hand felt stiff. After consultation with a surgeon and a dermatologist he was admitted to the Rhode Island Hospital on October 21, 1940, with the diagnosis of erysipeloid of hands, face and neck due to swine infection.

Physical Examination: The patient was well developed and well nourished, he was acutely distressed with pain in his hands made worse by movement. His face and neck to the collar line were covered with many mottled raised sharply defined purplish erythematous placques and confluent papules. His feet were cold and cyanotic. His left arm showed no streaking. There were no palpable axillary glands. The left hand showed a healed one-half laceration of the lateral aspect of the index finger at the metacarpo-phalangeal joint. The finger and dorsum of the hand were swollen and covered with a purplish erythematous lesion as described above. The right hand was covered with a similar lesion and had a bracelet formation at the wrist.

The blood pressure was 140 m.m. of mercury systolic and 84 m.m. diastolic, the pulse rate was 120, the temperature, 102 degrees, and the respiratory rate, 20 per minute. The heart, lungs, and abdomen were negative.

Laboratory Examination: Urine examination on October 22, 1940—yellow, acid, s.g. 1010, negative for sugar, one plus albumin, sediment negative. On October 28, 1940—yellow, acid, s.g. 1020, negative for sugar, one plus albumin, sediment negative. On admission the erythrocyte count was 4,800,000 and the hemoglobin content 104 per cent. The leucocyte count was 16,400 with differential count — polymorphonuclear neutrophils 92 per cent, small lymphocytes 8 per cent. The Wassermann and Hinton tests were negative. Blood chemistry was urea nitrogen 8 m.g. per 100 c.c. of blood; glucose 81 m.g. per 100 c.c. of blood. October 22, hemogoblin content was 104 per cent, blood free sulfanilamide was 8.0 m.g. per cent, level total was 10.8 m.g. per cent, the leucocyte count was 18,700 with neutrophils 90 per cent and small lymphocytes 10 per cent. On October 24, hemogoblin content was 110

per cent, blood free sulfanilamide 8.0 m.g. per cent, level total 11.1 m.g. per cent, leucocyte count 13,500 with neutrophils 88 per cent, small lymphocytes 12 per cent. On October 28. 1940 hemoglobin content was 100 per cent, blood free sulfanilamide 9.0 m.g. per cent, level total 11.8 m.g. per cent, leucocyte count 17,500 with neutrophils 88 per cent, small lymphocytes 10 per cent, monocytes 2 per cent. Serum aspirated from the lesion was sterile. Patient refused to have a piece of skin excised so the organism was not recovered from this case.

Course of Illess: Patient was given sulfanilamide 100 grains with 50 grains of soda bicarbonate on admission to the hospital, then 25 grains with 15 grains of soda bicarbonate four times in twenty-four hours daily, until October 28, his eighth hospital day, when the dose was diminished to 10 grains with 10 grains of soda bicarbonate three times daily. On his second hospital day he was given an x-ray treatment: face one inch 76 r units, hands three inch 114 r units. On his third hospital day he was given a second x-ray treatment: face one inch 76 r units, hands two inches 152 r units, using no filter on face and one aluminum filter on hands. The temperature fluctuated from 102 degrees to 99.8 degrees until the seventh hospital day, then it fluctuated between normal and 98.8 until the tenth hospital day when he was discharged. The swelling and pain subsided on the third day but the purplish discoloration remained on his hands and face until the twenty-eighth day of his illness. Temperature remained normal after his discharge from the hospital. Sulfanilamide was discontinued the day before he was discharged from the hospital. He made an uneventful recovery. There were no complications. Discharged October 30, 1940.

Summary and Conclusions: A case of erysipeloid reported because of its rarity in the State of Rhode Island. It was unfortunate that the organism erysipelothrix rhusiopathiae was not recovered from this case. The case here submitted is believed to be the first of its kind reported in this state. With the disease increasing in the United States it is concluded that in the future it will occur more frequently in Rhode Island.

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RHODE ISLAND STATE DEPARTMENT OF HEALTH

The Rhode Island State Department of Health Cooperates with the Armed Forces in this Area

In line with the well established State Department of Health policy of cooperating with and offering assistance to all proper agencies, both governmental and private or voluntary, the staffs of several of the Divisions are now engaged during a considerable part of their working day in cooperative effort with the Selective Service System and armed forces located within our State boundaries. The greatest burden has fallen upon the Divisions of Laboratories, Preventable Diseases, Sanitary Engineering, Vital Statistics and Maternal and Child Health.

Division of Laboratories

In general all of the tests and examinations that are performed by the State Laboratories are available to military and Selective Service authorities upon request. The State Selective Service headquarters, acting upon the suggestion of the Surgeon General of the U. S. Public Health Service, directed that a blood Wassermann or similar standard serological test be included as a routine part of all physical examinations performed on prospective draftees. The State Division of Laboratories was requested to perform these tests. Special forms were designed to facilitate the record keeping of this project. It is required that a second blood test be performed on any person found to have a positive or suspicious serological reaction. From November 9, 1940, the date on which the first Selective Service examinations were held up to and including January 17, 1941, the State Division of Laboratories performed serological tests for syphilis on 4,231 Selective Service blood specimens. Thirty-nine or 0.9 per cent of these were found to be positive. The Division of Laboratories was also requested by National Guard officials to perform blood tests for syphilis on all of the State's National Guardsmen prior to their induction into the regular army. Under this program 272 specimens have been examined up to January 17th and 2 were found to be positive. As the number of draftees under the Selective Service System will increase during each succeeding month, the burden upon the State Laboratories will increase proportionately. It has already been necessary to employ additional personnel, both technical and clerical, to handle the volume of work. The diagnostic chemistry section of the State Laboratories has been called upon to perform a large number of urine and blood chemistry examinations on Selective Service registrants by the examining physicians. It is not possible to give any definite figures on these examinations because specialized forms were not used in submitting the specimens

Division of Preventable Diseases

The Division of Preventable Diseases receives a copy of the laboratory report on the blood test of each draftee and National Guardsman. Individuals found to have a positive serology are followed-up by the investigative staff of the Division and referred for the required second test if this has not already been performed. If the second test has been done the Selective Service registrant is referred to his own physician or to a clinic, if he is indigent, for further observation and treatment, as indicated. When a history suggests the possibility of a new infection, efforts are made to trace contacts and to discover the source of infection. This is done as an integral part of our regular epidemiological program. The epidemiologists are also available to the medical officers of all military reservations in the State to assist them with their investigations. Following conferences between state and military health officials, arrangements have been completed for the reporting of all cases of venereal diseases that are discovered in army and navy men. Epidemiological investigations are also conducted when information concerning the possible source of infection is available.

At the request of army officials the portable X-ray machine owned by the State Department of Health has been made available for us in the induction examinations of Selective Service draftees. It is expected that untimately the Army Medical Department will be able to secure a sufficient number of the miniature X-ray machines for itself, but until such time as delivery on these is forthcoming, the State Health Department will take the required chest X-rays. Besides the use of the machine, the Health Department supplies a physician and two X-ray technicians who are present at the Army Reception and Induction Center. The films are read by the Health Department physician and a report rendered to the army induction physicians. During the first and second drafts approximately

1000 men will be X-rayed by the state in this fashion. In addition to this, the National Guard officials have requested the State Department of Health for chest X-ray examinations on all of Rhode Island National Guardsmen prior to their induction in the regular army. This work has been proceeding apace. In spite of the addition of a second technician a tremendous amount of over-time work has been required from the staff members engaged in this X-ray work, in order to keep up with the time requirements of the military agencies.

Since October 1940 frequent conferences have been held with the medical officers in charge of the several naval and military establishments located within our state borders. Dr. Hilary J. Connor, the newly appointed Venereal Disease Control Consultant, is attempting through these conferences to anticipate problems of a venereal disease nature before they actually occur. It is felt by all parties concerned that many of the bad situations that arose in the vicinity of military reservations during the past war can be averted or at least lessened by this anticipatory action. A well rounded joint program with contributions by the State Department of Health and the navy and army medical men is now nearing completion. This program is patterned after suggestions contained in the "Agreement by the War and Navy Departments, the Federal Security Agency, and State Health Departments on Measures for the Control of the Venereal Diseases in Areas Where Armed Forces or National Defense Employees are Concentrated."

Division of Sanitary Engineering

The Division of Sanitary Engineering has undertaken a variety of work in cooperation with the armed forces and all problems of national defense, most of which has dealt with environmental sanitation in areas adjacent to the military establishments, rather than within the military establishments themselves. A detailed survey was made, in cooperation with the U. S. Public Health Service, to determine the scope and magnitude of the sanitation problems that might be expected due to increased concentrations of population both military and civilian incident to the military. The supervision of public water supplies serving the military areas as regularly exercised by the division has been expanded by increasing the number of inspections made of purification works and by collecting samples for laboratory examinations with greater frequency. Increased sampling of the water supply has been made necessary in some areas to ascertain that contamination has not been introduced during the installation of new water piping and appurtenances. Emergency chlorination was adopted on recommendations of the division in some cases where it was discovered that new water piping had apparently been put into use without proper disinfection. Much laboratory assistance has been given in the development of a new source of water supply to serve the Quonset Naval Aid Base. Special inspections of public water supply systems have been made to ascertain possible weak points against sabotage. A meeting has been held with the superintendents of all the larger public water supplies and many of the more important industrial supplies to exchange experiences and recommend methods for making sabotage more difficult, among which are provisions for increased patrolling, unannounced visits by the police, flood lighting, fencing, and exchange of equipment and fittings among the different supplies for quicker repairs if necessary. Sewerage developments have been followed to obtain satisfactory disposal of sewage following a request by the naval authorities. A type of sewage treatment plant was recommended for the Quonset Naval Air Station and adjacent housing projects which would protect bathing and fisheries interests near the point of discharge of the treated sewage. Preliminary plans prepared in accordance with these recommendations were submitted for approval. Certain modifications to strengthen the protective treatment were subsequently incorporated into the final plans. Consultations have been held on alternate methods of sewage treatment for a housing project in the Newport zone and for barracks at Fort Kearney.

The milk supply situation has been reviewed. An increased control of local milk producers near the zones has been instituted. Increased inspectional services for food dispensing establishments have also been provided. All types of camps, resorts, roadside stands, bathing places, etc. which will receive increased patronage from the troops are to be subjected to intensified scrutiny.

Industries which receive national defense contracts are inspected for occupational disease hazards from such sources as dust, fumes, vapors, volatile solvents, etc. Lists of contracts are received from Washington and special attention is given to places that are suddenly called upon to undertake processes new to them. Vigilance is ex-

ercised to guard against problems that might result from overcrowding or a rapid increase of inexperienced workmen exposed to potential industrial hazards. Inspectional judgment of potential hazards is corroborated by laboratory studies.

Division of Vital Statistics

A seldom thought of service that is now being performed by the Division of Vital Statistics daily has a most important bearing on the National Defense Preparedness Program. The Federal Government now requires a birth certificate from each employee who is working in any manufacturing plant receiving National Defense contracts. Although at first glance this would appear to be a rather simple procedure, it actually entails a large amount of effort on the part of the personnel in this Division. Since June 1940 the office has cleared an average of approximately 85 birth certificates and verifications each day. Because of the inadequacy of the birth index for years prior to 1900 it is often extremely time-consuming to check on an individual's birth. Within the past several years the index was completed as far back as 1900, and if it were not for this even greater trouble would be caused by this mass request for birth certificates.

Division of Maternal and Child Health

Certain sections of the State have already begun to realize a considerable population increase due to the development of military reservations and the expansion of a large variety of industries in Rhode Island that are engaged in defense production. For every person added to the military personnel in army and navy reservations it is estimated that the civilian population in the area adjacent to the reservation is increased by one person. Emergency accommodations have increased not only problems in housing and environmental sanitation, but also in infant and child hygiene and welfare. Nutritional problems likewise enter the picture both in adults and children. While at the present time none of these problems have reached an acute stage in this State, the staff of the Division of Maternal and Child Health is watching the situation as it develops and is studying the experiences of and methods developed for dealing with similar problems in other states. By anticipating conditions before they actually exist much can be done to facilitate the adjustment of our communities to the rapid population increase. School and recreational facilities with their attendant sanitary problems are being considered in a like manner.

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INCREASE IN CASES OF CANCER

Whether cancer is or is not increasing is still a matter for debate. That we, as medical men, see and treat more cases of cancer than we did ten years ago is evidenced by figures from the records of the Rhode Island Hospital. In 1929 there were 7,814 discharges from the Hospital, 417 with a diagnosis of cancer of some sort. In 1939, of 7,911 discharges, 576 left with a diagnosis of "cancer." That shows an increase of 38% in those ten years in the number of cases treated. Of course these figures do not mean that there has been an actual 38% increase in cancer in Rhode Island in these ten years. But it does mean that 38% more cases are arousing public interest from being treated in a public hospital.

An increasing public interest in any disease brings a challenge to the individual medical man. He will be consulted more and more frequently by worried men and women who have read newspaper articles or pamphlets or have heard lectures giving repeated warnings about sores that do not heal, lumps in the breast, or abnormal bleeding from body cavities. He will soon find that these people will not be satisfied with anything but a thorough examination and a straightforward, intelligent opinion of his or her condition.

It isn't possible for any man to become proficient in all branches of medicine. Neither can the general practitioner be expected to distinguish for instance between types of glandular tumors, but he can learn to avoid the gross mistakes in diagnosis that too often lead to disastrous delay and make the treatment of malignant disease so hopeless. It is perfectly true and much to their credit that members of the medical profession spend a great deal of effort in keeping abreast of the advance in medicine.

DR. CHARLES V. CHAPIN

Written words can only feebly express the accomplishments of Dr. Chapin. His life has been a stimulation not only to public health officials but also to the medical profession in general. He was a cultured and understanding man and was possessed of a keen and analytical mind. Every problem of public health administration received very careful study before he formulated his ideas. He was untiring in collecting exact information concerning public health matters and he justified his views about statistics which were unquestionable. He suggested certain radical departures from previous public health practices which, after years of observation, convinced other health authorities that he was right.

No other single man in the history of public health in the United States has ever had such a wide-spread influence on the modernization of health department procedures. In his contribution to a volume, "A Half Century of Public Health," commemorating the 50th anniversary of the founding of the American Hospital Association, he used these words, "Figures do not measure the terror of epidemics nor the tears of the mother at her baby's grave, nor the sorrow of the widow whose helpmate has been snatched away in the prime of life. To have prevented these not once but a million times justifies our half century of public health work." These words clearly indicate the deep interest which sustained him during his active years as public health officer. He was not afraid to express his ideas whether they were likely to be accepted or not and yet personally he was a most charming man.

He was not only the author of books but he was also a voluminous writer of articles on different phases of public health. Every such contribution was given the most careful study before he did his writing.

His acquaintance with health officers was extensive not only in this country but also in foreign countries. He was in the class with Dr. William C. Gorgas whose health work made possible the completion of the work on the Panama Canal. Even during his student days in medical school he was greatly impressed with the discussions by Dr. Janeway who at the time was keenly interested in Louis Pasteur's experiment in connection with the microbe theory of disease. He was also a close friend of Sir Arthur Newsome, chief health officer of England.

Dr. Chapin was a teacher at Brown University, at Harvard Medical School and Harvard School for Health Officers. His office in the City Hall was a Mecca for visitors interested in public health and they came from all parts of this continent and Europe. He received a great many honors for distinguished service in his chosen field, all of which he accepted in his modest way.

Local physicians have for years recognized his ability and accomplishments, and Dr. Chapin's opinion was about the last word in the solution of many of the local problems. He was a great inspiration to those who came in contact with him and the course of many of their lives was influenced by his stirring character and profound wisdom. His contribution to the saving of lives and prevention of disease cannot be measured nor can the heritage of his life and accomplishments. The recognition which he received before his retirement from active life pleased him greatly and partly repaid for the long years of studious endeavor to improve public health.

NEW ENGLAND HEALTH INSTITUTE

"Public Health in National Defense" is the theme of the eleventh New England Health Institute which will be held at the Hotel Statler, Boston, April 2, 3, and 4. The health departments of every New England State will collaborate in presenting the Institute. Other collaborating agencies are the United States Public Health Service, Children's Bureau United States Department of Labor, New England Tuberculosis Association, Massachusetts Public Health Association and the Massachusetts Central Health Council.

Speakers of national prominence will be in charge of many of the sessions. Dr. Thomas Parran, Surgeon General of the United States, is to speak at the general meeting on Wednesday evening. The three-day Institute is divided into sixteen sections, covering every field of health work. Four sessions will run concurrently every hour from 9:30 a.m. to 12:30 p.m., and from 2 p.m. to 5 p.m.

In the Section on Communicable Diseases, Dr. Lester A. Round, Director of the Rhode Island Department of Public Health, is Chairman of the Joint Session with Laboratory Section. In the Section on Maternal and Child Hygiene, Dr. Francis V. Corrigan, Chief of the Division of Maternal and Child Health, Rhode Island Department of Public Health, is Chairman of the Joint Session with Communicable Diseases Section.

RHODE ISLAND MEDICAL SOCIETY

House of Delegates

October 17, 1940

The regular meeting of the House of Delegates of the Rhode Island Medical Society to have been held September 19, 1940 was postponed because of the lack of a quorum to October 17, 1940. The meeting was called to order at 4:45 P. M. by the President, Dr. Lucius C. Kingman. The following members were present: Drs. Kingman, Mowry, DeWolf, Hammond, Miller, Bradley, Buffum, Burgess, Franklin, Hamilton, W. S. Jones, Kent, Messinger, M. Potter, Ronchese, M. Saklad and Wells.

The Secretary read a report of the meeting of the Council of September 19, 1940, and then read the report of the regular meeting of the House of Delegates of May 16, 1940. It was voted to accept the Secretary's reports and place them on file.

The Delegate of the Society to the American Medical Association then read a report of the National Convention held in New York, June 11-14, 1940. It was voted to accept this report and place it on file. Dr. Halsey DeWolf then outlined the plan for medical preparedness and reported for the Committee on Medical Defense. Dr. Wells moved the dues of the Rhode Island Medical Society be fixed at $10.00 for the ensuing year. Motion seconded and passed. Dr. Alex Burgess moved the Rhode Island Medical Society participate in the New England Postgraduate Assembly. After seconding, the motion was passed.

The President, Dr. Lucius Kingman, then opened a discussion concerning the invitation to hold the annual meeting of the Rhode Island Medical Society in Newport, R. I. in 1941. Dr. Merle Potter, having been present at the previous meeting of the House of Delegates, moved the question be reconsidered and the invitation from the Newport County Medical Society be accepted. After considerable discussion as to the available lecture halls, etc., the motion was seconded and passed.

Dr. Jesse Mowry moved the annual meeting be held May 28-29, 1941 in order to avoid a conflict with the annual convention of the American Medical Association. Motion was seconded and carried.

The President then outlined a plan whereby committees might be combined in an endeavor to make for better coordination and to reduce the number of committees. He asked for authorization to carry this into effect in January 1941. It was moved, seconded and passed. It was moved, seconded and passed to authorize the President to appoint a committee to change the By-Laws regarding the date of the annual meeting of the Society.

Dr. William P. Buffum then moved that inasmuch as "The National Hearing Week will be observed throughout the country October 20 to October 26, 1940, the Rhode Island Medical Society takes this occasion to call attention to and endorse the work of the Providence League for the Hard of Hearing." It was seconded and passed.

Dr. Albert Miller moved the recommendation of the Council that the Rhode Island Medical Society pay $0.50 per member to the Rhode Island Medical Journal during the year of 1940-1941 be approved. Motion was seconded and passed.

It was moved, seconded and passed that the President appoint a delegate to the Congress of Industrial Health to be held in Chicago in January 1941 and that the House of Delegates recommend to the Council an appropriation of $100.00 to defray the Delegate's expenses. There being no further business, the meeting adjourned, with Dr. Kingman in the Chair.

Respectfully submitted,

GUY W. WELLS, M.D.,
Secretary.

Council

January 16, 1941

The regular meeting of the Council was called to order at 3:45 P. M., Thursday, January 16, 1941, by the President, Dr. Lucius Kingman.

Those present were Drs. Kingman, Mowry, Partridge, Miller, Burgess, MacLeod, Brackett, Fulton, Hammond and Wells.

The minutes of the meeting of September 19, 1940 were read and approved.

Dr. Mowry submitted the Treasurer's report of the Budget for 1941, pointing out the increase in the assistant librarian's expenses was due to the exhaustion of a special fund for that purpose. The report was accepted and approved.

It was moved to recommend to the House of Delegates that appropriations be made for all items mentioned in the Budget report. Motion was seconded and passed.

Dr. Mowry then moved that dues of all members of the Rhode Island Medical Society called to the

Service of the Flag be remitted for the time of Service. Motion was seconded and passed.

After a brief discussion by Dr. Kingman, Dr. Mowry moved that: "If and when the amendments to the By-Laws to establish the offices of Assistant Secretary and Assistant Treasurer are enacted, the President is authorized and directed, after consultation with the Nominating Committee, to appoint a Fellow of the Society to each of these positions until duly elected officers assume office at the close of the next Annual Session of the Society." The motion was seconded and passed.

It was moved to place the names of the following men on the retired list: Dr. Arthur Hollingworth of North Scituate, Dr. Thomas H. Murphy of Pawtucket, Dr. Albert H. Miller of Providence, and Dr. John J. Conway of Warren, Motion was seconded and passed.

It was moved that Dr. Amy H. E. Russell of East Providence be reinstated to membership as of January 1941. Motion seconded and passed.

Dr. Mowry moved the following members be dropped from membership because of non-payment of dues after having had the usual sixty day notices: Dr. Walter J. Dufresne of Pawtucket, Dr. William A. King of Woonsocket, and Dr. Mark Rittner of Providence. Motion was seconded and passed.

There being no further business, the meeting adjourned at 4:25 P. M., Dr. Kingman in the Chair.

Respectfully submitted,

GUY W. WELLS, M.D., *Secretary*

House of Delegates

January 16, 1941

The House of Delegates was called to order by the President, Dr. Lucius Kingman, at 4:40 P. M.

Drs. Kingman, Mowry, Brackett, Partridge, Hammond, Miller, Honan, Burgess, Whitmarsh, Webber, W. S. Jones, MacLeod, Ronchese, Bird, Fulton, Messinger, DiLeone, and Wells were present.

The Secretary read the report of the Council of the same day.

The Secretary then read the minutes of the meeting of the House of Delegates of October 17, 1940. The minutes were approved.

The Secretary then read a report from the Resolutions Committee, as follows:—

"It was unanimously voted by the Resolutions Committee of the Rhode Island Medical Society that the By-Laws of the Society pertaining to the time of meetings of the House of Delegates, Council, and Society itself be made more flexible. It was agreed that the President, with the approval of the Council of the Society, should be able to change the meeting dates if he thought it for the best interest of the Society. This resolution was adopted because of the fact that meetings of the American Medical Association and the Rhode Island Medical Society this year conflict with each other."

It was moved, seconded and passed that:—The By-Laws be amended by changing Article V, Section 1; Article VII, Section 2; Article VIII, Section 2, by omitting fixed dates of meetings and that the President be empowered to call meetings at such times as seems most proper.

Dr. Mowry moved the present appointed committees be abolished, and, secondly, that the President be instructed to appoint the following eight committees: —

1. Nominations
2. Annual Meeting
3. Resolutions
4. Publicity
5. State Policies of Public Health
6. Public Health
7. Social Welfare
8. Medical Defense and Grievance

Dr. Mowry's motion was seconded by Doctor Whitmarsh. It was discussed by Drs. Kingman and Brackett. Motion passed.

The President then read the names of the Committees as follows:—

COMMITTEES ON

1. *Nominations*
   - J. F. Kenney, Pawtucket, Chairman
   - P. Batchelder, Providence
   - P. C. Cook, Providence
   - N. S. Garrison, Woonsocket
   - J. E. Ruisi, Westerly
2. *Annual Meeting — For 6 months*
   - W. S. Jones, Providence, Chairman
   - C. Bradley, Providence, Commercial Exhibits
   - E. F. Burke, Pawtucket
   - R. L. DiLeone, Providence
   - N. M. MacLeod, Newport, Annual Clinics, Treasurer, ex-officio

   Members of Standing Committee on Arrangements with added member for Commercial Exhibits and member for Clinics. The latter to appoint own sub-committees.

3. *Resolutions — For 6 months*
W. H. Foley, Providence, Chairman
F. H. Chafee, Providence
E. F. Kelly, Pawtucket
Resolutions Committee shall be same as Standing Committee on Legislation.

4. *Publicity — For 6 months*
J. P. Eddy, Providence, Chairman
C. L. Farrell, Pawtucket
J. Langdon, Providence
Shall be same membership as Standing Committee on Education.

5. *State Policies of Public Health*
F. V. Hussey, Providence, Chairman
A. M. Burgess, Providence
H. DeWolf, Providence
J. E. Donley, Providence
A. G. Fidanza, Providence
R. Hammond, Providence
H. E. Harris, Providence
C. H. Holt, Pawtucket
J. P. Jones, Wakefield
H. P. B. Jordan, Providence
L. C. Kingman, Providence
H. A. Lawson, Providence
H. C. Messinger, Providence
W. C. Rocheleau, Woonsocket
A. H. Ruggles, Providence
M. Saklad, Providence
W. S. Streker, Providence
M. H. Sullivan, Newport
D. V. Troppoli, Providence
J. G. Walsh, Providence
G. W. Wells, Providence
J. L. Wheaton, Pawtucket

6. *Public Health Committee*
C. F. Gormly, Providence, Chairman and Chairman Industrial Health
H. C. Pitts, Providence, Cancer
S. Sprague, Pawtucket, Public Health Clinics
H. E. Utter, Providence, Child Health
J. G. Walsh, Providence, Maternal Mortality
Sub-chairmen to appoint own committees.

7. *Social Welfare*
W. P. Buffum, Providence, Chairman
A. M. Burgess, Providence
H. P. Gongaware, Westerly
H. E. Gauthier, Woonsocket
N. M. MacLeod, Newport
A. V. Migliaccio, Providence
W. S. Streker, Providence
J. L. Turner, Pawtucket
G. L. Young, East Greenwich

8. *Medical Defense and Grievance*
W. A. Mahoney, Providence, Chairman
S. Adelson, Newport
N. S. Garrison, Woonsocket
J. E. Ruisi, Westerly
F. G. Taggart, East Greenwich
J. L. Wheaton, Pawtucket
R. H. Whitmarsh, Providence

Anniversary Chairman —
Samuel Adelson, Newport

Dr. Kingman then spoke of a scientific meeting of the Society to be held sometime in February. He felt that topics relating to the effect of war on medicine would be the most timely. It was moved, seconded and passed that such a meeting be held.

The President again discussed changes in the By-Laws made necessary because of war. These related to appointments of an Assistant Secretary and an Assistant Treasurer.

Dr. Burgess moved that By-Laws be amended by the following additions:—

Article IX, Section 1. "An Assistant Secretary and an Assistant Treasurer."

Article X, Section 5. "The Assistant Secretary and Assistant Treasurer shall perform such duties as may be delegated to them by the Secretary and Treasurer respectively and they shall familiarize themselves with the work of these officers."

Article VII, Section 6. "Or Assistant Secretary or Assistant Treasurer."

Dr. Burgess' motion was seconded and passed.

It was then moved to place before the next general assembly of the members of the Rhode Island Medical Society the changes in the By-Laws as recommended by the House of Delegates. Motion seconded and approved.

The President then read the names of the delegates and assistant delegates to the New England Medical Societies. They are as follows:—

Maine — A. H. Miller, Providence; C. D. Sawyer, Providence

New Hampshire — A. H. Ruggles, Providence; F. H. Mathews, Providence

Vermont — M. G. Platt, Riverside; F. J. King, Woonsocket

Massachusetts — J. C. O'Connell, Providence; C. A. McDonald, Providence

Connecticut — H. D. Kenyon, Westerly; M. W. Thewlis, Wakefield

Dr. Edgar S. Potter of Chepachet was appointed to the Board of Trustees of the Rhode Island Medical Building.

There being no further business, the meeting adjourned at 5:30 P. M., Dr. Kingman in the Chair.

Respectfully submitted,

GUY W. WELLS, M.D., *Secretary*

Since the meeting of the House of Delegates there have been the following changes in the Committees:

W. S. Streker, M.D. has resigned from the Committee on State Policies of Public Health and the Committee on Social Welfare and no one has been appointed to take his place.

F. V. Hussey, M.D. has resigned as Chairman of the Committee on State Policies of Public Health and E. S. Brackett, M.D. has been appointed in his place.

PROVIDENCE MEDICAL ASSOCIATION

January Meeting

The 94th Annual Meeting of the Providence Medical Association was held at the Medical Library on Monday, January 6, 1941. The meeting was called to order by the President at 8:35 P. M. The minutes of the preceding meeting were read by the secretary and approved.

The annual report of the Secretary was read by Dr. Herman A. Lawson and was approved and placed on file. In the absence of the Treasurer, Dr. William P. Davis, the annual report of the treasurer was presented by Dr. Herman A. Lawson. The annual report of the Executive Committee was presented by Dr. Lawson and was accepted as read.

Following the annual Presidential address by Dr. Walsh in which he reviewed the work of the Association during the past year, a motion was called for to provide for the election of the president of the Association for the ensuing year. Dr. Alex M. Burgess moved that the Secretary be empowered to cast the vote of the Association to unanimously elect Dr. Murray S. Danforth as President for the year 1941. The motion was seconded by Dr. Charles F. Gormly and was unanimously approved. Dr. Walsh appointed Dr. Herman C. Pitts and Dr. Peter P. Chase as a Committee to escort the new President to the platform. President Danforth extended his thanks to the membership for electing him to the Office and expressed the hope that he might continue the splendid leadership of his predecessors.

Dr. Danforth called for a motion on the election of a vice president for 1941. Dr. Jesse Mowry moved that the slate of officers as recommended by the Executive Committee to the Association, be elected for the ensuing year.

The motion was seconded and unanimously approved and the following were declared elected: President, Murray S. Danforth, M.D.; Vice President, Henry E. Utter, M.D.; Secretary, Frank B. Cutts, M.D.; Treasurer, William P. Davis, M.D.; Executive Committee—Two new members for five-year term each: John G. Walsh, M.D., Patrick I. O'Rourke, M.D. One member—to fill unexpired term of Frank Cutts, M.D., three years, William M. Muncy, M.D. Trustee R. I. Medical Library, one year term, William P. Buffum, M.D. Councillor to R. I. Medical Society, two year term, Alex M. Burgess, M.D.

Delegates to House of Delegates of Rhode Island Medical Society: Drs. Daniel V. Troppoli, Maurice Adelman, Francesco Ronchese, George F. White, Meyer Saklad, John A. Hayward, Harry C. Messinger, Ernest W. Bishop, Charles L. Southey, Henry F. McCusker, William P. Buffum, James Hamilton, John G. Walsh, Merle M. Potter, James H. Fagan, Kalei K. Gregory, Walter S. Jones, David Freedman, Raymond F. Hacking, Murray S. Danforth, Frank B. Cutts, Ralph DiLeone, Joseph B. Webber, Frank J. Honan, Clarence E. Bird, Robert H. Whitmarsh.

The President announced the following changes in the list of committee appointments for 1941, and stated that the complete list of all committees would be published in the next edition of *Medical News*.

Blood Transfusion Bureau: Dr. John G. Walsh appointed as an active member of this Bureau.

Committee on Credit and Collection: Dr. Emanuel W. Benjamin to replace Dr. G. Raymond Fox.

Committee on Entertainment: Dr. Russell R. Hunt, Chairman, Drs. Richard F. McCoart, Frank J. Honan, Carl D. Sawyer, Edward I. Seltzer.

Committee on Group Health and Accident Insurance for Physicians: This Committee, which consisted of Drs. Robert G. Murphy, Emanuel W. Benjamin, and James H. Cox, having completed splendid work over a period of a year and a half, is discharged with the commendation of the Association for the completeness of its reports and the success of its work.

Committee on Group Hospitalization: Dr. Henry S. Joyce, Chairman, Drs. Bertram H. Buxton, Vincent J. Ryan, Jacob Greenstein, Robert H. Whitmarsh.

Advisory Committee to the Bureau for the Handicapped: Dr. Herbert E. Harris to replace Dr. Murray S. Danforth.

Committee on Legislation: Dr. William H. Foley, Chairman, Drs. J. Merrill Gibson, William A. Mahoney, Francis H. Chafee, Herman C. Pitts.

Medical Milk Commission: Dr. Reuben C. Bates reappointed for a term of five years, and Dr. Frank I. Matteo appointed to succeed Dr. George W. Waterman.

Committee on Membership: Dr. Walter S. Jones replaces Dr. Vincent J. Ryan, and to the committee are added Dr. Arcadie Giura and John H. O'Brien.

Committee on Pre-School Examination: Dr. Robert M. Lord appointed chairman to succeed Dr. John Langdon.

Committee on Public Information: Dr. Russell S. Bray, Chairman, Drs. Herman A. Lawson, Frank B. Cutts.

Committee on Public Relations: Dr. John E. Donley, Chairman, Drs. Edward A. McLaughlin, Arthur H. Vaughn, Edward S. Cameron, Henry J. McCusker, Eske H. Windsberg, Charles L. Southey, Ulysse Forget, Samuel D. Clark.

Reading Room Committee: Dr. Herbert G. Partridge, Chairman, Drs. Amy E. Russell, Robert C. Robinson.

Committee on Telephone: Dr. Walter S. Jones appointed chairman to succeed Dr. William A. Mahoney, Drs. James H. Fagan and Robert G. Murphy complete the committee.

Committee on Tuberculosis and Silicosis: Dr. William P. Buffum appointed chairman and Dr. John I. Pinckney an added member to the Committee.

Committee on Welfare: Dr. Daniel V. Troppoli appointed to succeed Dr. Anthony V. Migliaccio.

A New Committee on Contract Practice is appointed as follows: Dr. Albert A. Barrows, Chairman, Drs. Joseph L. Belliotti, Walter J. Molony, Robert H. Whitmarsh, Richard S. Arlen.

The President announced that the annual report of committees would be printed and distributed to the membership within the month and therefore would not be read at this meeting.

The secretary announced that the Executive Committee had approved for election to active membership the following:

Walter F. Fitzpatrick, M.D.
J. Frank Ryan, M.D.
Werner Segall, M.D.

Dr. Jesse Mowry moved that the Secretary be instructed to cast one vote to elect these men to membership in the Association. The motion was seconded and approved.

Dr. Alex M. Burgess moved that the annual dues of this Association for the year 1941 be established as $15 per member for active membership and $5 per member for associate membership. The motion was seconded and passed.

Dr. Frank B. Cutts speaking for Dr. William S. Streker, Chairman of the Committee on the budget for the executive office, moved that an appropriation of $4858 be allowed for the maintenance and operation of the executive office. The motion was seconded and unanimously passed.

Dr. Harry C. Messinger moved that the Providence Medical Association appropriate the sum of $450 as a donation to the Rhode Island Medical Society for the use of the Library Building. The motion was seconded and unanimously passed.

On the motion of Dr. Herman C. Pitts the Association appropriated the sum of $500 to be used for the purchase of medical journals and for the binding of old journals for the files of the Medical Library.

Dr. Danforth extended the commendation of the Association to Herman A. Lawson for his devoted service as Secretary for the past five years.

The guest speakers of the evening were Dr. Seebert J. Goldowsky of this Association and Dr. John B. Sears, Chief, Peripheral Vascular Clinic, Beth Israel Hospital, Boston, who discussed the topic "Varicose Veins and Related Conditions." Dr. Goldowsky presented "Modern Treatment of Varicose Veins." Dr. Sears discussed "Phlebitis, Ulcers, the Thromboses." The papers were discussed by Dr. Frank B. Littlefield, Alex M. Burgess, and Jesse P. Eddy.

The President introduced Dr. Henry E. Utter who explained briefly the motion picture titled "Bobby Goes to School" which has been prepared by the American Academy of Pediatrics. This motion picture was then shown to the membership.

The meeting was adjourned at 10:55 P. M.
Attendance: 148
Collation was served

Respectfully submitted,
Frank B. Cutts, M.D.
Secretary.

The 47th Anniversary of the Tufts College Medical School Alumni Association will be celebrated at its Annual Dinner on Wednesday evening, March 26th, at 7:00 o'clock at the Hotel Somerset, Boston.

PRELIMINARY REPORT OF HEALTH DEPARTMENT ACTIVITIES PROVIDENCE, RHODE ISLAND 1940

I herewith present the preliminary report of the Health Department activities for the year 1940.

The Federal Census taken April 1940 showed 253,214 population as of April 1st. This is an increase over 10,000 from the State Census taken as of January 1, 1936. We are, therefore, recalculating the rates for the intervening years in accordance with this growth in population. The increase in births and marriages both actual and relative tend to indicate that Providence has again become an active growing city. Reports from the Inspector of Buildings showing an increase in dwelling units tend to confirm this fact. Accordingly, this department has estimated the population for 1940 as 254,000 and for 1941 as 257,000 using the projected population as of July 1 of each respective year.

While there was a slight increase in the total number of deaths over the previous year, owing to the increase in population the death rate is lower. The total number of deaths among the age group from one to sixty-nine inclusive, however, shows a steady decrease. The infant mortality figures also show a general decrease in infant deaths. For the first time in the history of the city, heart disease was the cause of death in over a thousand persons. Indeed, nearly one out of every three deaths was due to heart disease. Four hundred fifty-eight (458) of these deaths occurred in individuals over seventy years of age.

Both of the diphtheria deaths were non-residents, as were eight of the pulmonary tuberculosis deaths. The number of Providence residents dying from tuberculosis outside of the city has not as yet been ascertained. The decrease in the pneumonia deaths is gratifying. It is doubtless due to the newer methods of treatment. During the year a death from pellagra was reported to this department. One Providence resident died of an infection sustained following a dogbite, while one non-resident died of rabies and two non-residents died of mycotic infections. One death from amoebic dysentery, that of a resident, was the first in ten years of this disease. The epidemic of whooping cough has subsided and although one death occurred during the year another youngster died in January of 1941, having contracted the disease in 1940. The epidemic of measles that began in 1939 finally petered out in the Spring of this past year. While only two of the patients died, one in 1939 and one in 1940, it is our hope that eventually we will again be able to experience years without any measles deaths. It is interesting to note that one case of tularemia was reported to this department during 1940. This is the first Providence case on record.

The work of the new tuberculosis division is proceeding satisfactorily, and it is our hope that we will soon have funds sufficient to engage the services of a full time medical director for this unit. Beginning January 1, 1941, we have taken over from the Tuberculosis League a second quarter of the city for supervision and control.

It is our sincere hope that the department will be able to continue its high standard of work in the future.

*Vital Statistics**	*1940*	*1939*	*1938*
Deaths all	3143	3114	3280
Deaths under 1	215	219	222
Deaths over 70	1100	1026	1095
Births	5800	5601	5551
Marriages	2328	2004	1818
Infant Mortality	37.07	39.10	39.99
Death Rate	12.37	12.43	13.28
Birth Rate	22.83	22.36	22.04
Principal Causes			
1. Heart Disease	1044	920	833
2. Cancer	464	462	484
3. Pneumonia	148	180	266
4. Nephritis (chronic)	248	242	271
5. Cerebral Hemorrhage	188	184	214
6. Auto Accidents	32	35	30

	Cases (Residents Only) 1940	**Deaths** 1940
Communicable Diseases		
Diphtheria	11	2
Scarlet Fever	238	2
Measles	3105	1
Whooping Cough	251	1
Pulmonary Tuberculosis	35**	57
Septic Sore Throat	173	0
Gastro Enteritis } Bacillary Dysentery }	27	15
Amoebic Dysentery	1	1
Poliomyelitis	10	2
Epidemic Meningitis	6	3
Typhoid Fever	8	3
Paratyphoid Fever	1	1
Epidemic Encephalitis	0	0
Opthalmia Neonatorum	1	
Undulant Fever	0	0

Includes Non-Residents
North East Section of City Only

MICHAEL J. NESTOR, M.D.,
Superintendent of Health

REPORT OF THE MILK COMMISSION OF THE PROVIDENCE MEDICAL ASSOCIATION — 1940

Certified milk in Providence during 1940 was obtained from the following farms: Cherry Hill Farm, North Beverly, Mass.; Fairoaks Farm, Lincoln, R. I.; Ferrycliffe Farm, Bristol, R. I.; Hampshire Hills Farm, Wilton, N. H.; Walker-Gordon Farm, Charles River, Mass.

Through the courtesy and cooperation of the Boston Commission we have accepted their certification of two farms from Massachusetts and one from New Hampshire.

Bacteriological and chemical examinations of certified milk are made in the laboratories of Brown University under the supervision of Professor Charles Stuart. The potency tests on the vitamin-D milk have been carried on in the laboratory of Dr. Robert Harris at the Massachusetts Institute of Technology and were found to contain a minimum of 430 U.S.P. units per quart.

All of the herds are under State and Federal supervision and are free from Tuberculosis and Brucella abortus infections.

Certified milk from Sunnyfield Farm, Middletown, R. I. was distributed for seven months by the Brightridge Dairy of East Providence. This distribution has been discontinued for the present.

The annual summer meeting of the Producers and Commission was held in June. Members of the Boston Milk Commission were guests. Dr. Fay of the H. P. Hood Company gave an interesting and instructive talk on the vitamins in milk.

A combined meeting of the Massachusetts and Rhode Island Milk Commissions was held at the Alta Crest Farm, Spencer, Mass. The general topic of discussion was Bangs Disease and its control in the herd. The following regulations were adopted:

1. A clean herd should be blood tested every three months.
2. If any infected animals are found, the herd should be tested every 30 days using 1-50 dilution.
3. All infected cattle must be excluded from the herd.

A meeting of the Producers and the Commission was held in December, 1940. At this time it was voted to continue the use of the Gift package as a means of educating new mothers on the desirability of using certified milk.

Advertising material has been printed in the News Bulletin of the Providence Medical Association to acquaint the members of the profession with the qualities of certified milk. The annual report of the Commission was published in the Rhode Island Medical Journal, and the Providence Medical News.

The Commission is indebted to Dr. Knights, Deputy Inspector of milk of Providence for his continued interest and co-operation during the past year.

The personnel of the Commission includes Harold G. Calder, M.D., Chairman, Reuben C. Bates, M.D., Secretary and Treasurer, Henry E. Utter, M.D., Reginald A. Allen, M.D., George W. Waterman, M.D., Halsey DeWolf, M.D., Arthur R. Newsam, M.D., Maurice Adelman, M.D., and Raymond L. Webster, D.M.D. of the Rhode Island State Dental Society.

MONTHLY AVERAGES OF CERTIFIED MILK FOR 1940

	CHERRY HILL H. P. Hood			FAIROAKS			FERRYCLIFFE				HAMPSHIRE HILLS			WALKER-GORDON			SUNNYFIELD		
	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.	Pasteurized	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.
January	4.2	12.95	1,425	4.4	13.38	1,550	49	5.3	14.89	1,333	4.1	13.01	60	4.1	13.09	2,500			
February	4.2	13.22	1,850	4.3	13.48	1,405	18	5.3	14.71	2,333	4.0	12.94	32	4.0	12.81	2,340			
March	4.0	12.87	1,687	4.5	13.49	1,806	11	5.4	14.83	3,606	4.0	13.04	45	4.0	12.78	2,290	4.1	13.30	2,716
April	4.0	12.84	1,687	4.7	13.93	1,513	26	5.4	15.14	7,416	4.0	13.01	7	4.0	12.63	3,587	4.2	13.16	3,175
May	4.0	12.65	2,110	4.3	13.43	3,075	36	5.5	14.94	10,381	4.1	12.83	8	4.0	12.69	3,710	4.1	13.21	3,900
June	4.2	13.07	2,537	4.3	13.41	4,518	65	5.3	14.69	3,675	3.9	12.57	7	3.9	12.54	4,625	4.1	13.28	1,825
July	4.1	12.78	3,625	4.5	13.57	3,005	77	4.8	14.24	4,097	3.9	12.64	9	3.9	12.47	8,500	4.6	14.22	3,912
August	4.1	12.75	5,340	4.6	13.59	2,094	63	4.8	14.10	2,800	4.1	12.90	5	4.0	12.46	7,410	3.9	13.22	3,220
September	4.0	12.62	3,943	4.8	13.69	3,006	158	5.0	14.26	4,215	4.1	12.93	7	4.0	12.62	4,543	4.2	13.41	1,575
October	4.1	12.90	3,620	4.6	13.66	3,285	142	5.3	14.68	2,775	4.2	13.15	0	4.1	12.73	4,640			
November	4.0	12.75	2,325	4.9	14.10	3,675	71	5.6	15.08	4,243	4.1	13.00	1	4.0	12.92	4,762			
December	4.0	12.65	2,300	4.6	13.81	2,625	50	5.8	15.47	5,725	4.2	13.20	8	4.0	12.80	5,516			
Yearly Average	40.	12.83	2,704	4.5	13.63	2,629	64	5.3	14.75	4,383	4.0	12.93	15	4.0	12.71	4,535	4.2	13.40	2,903

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

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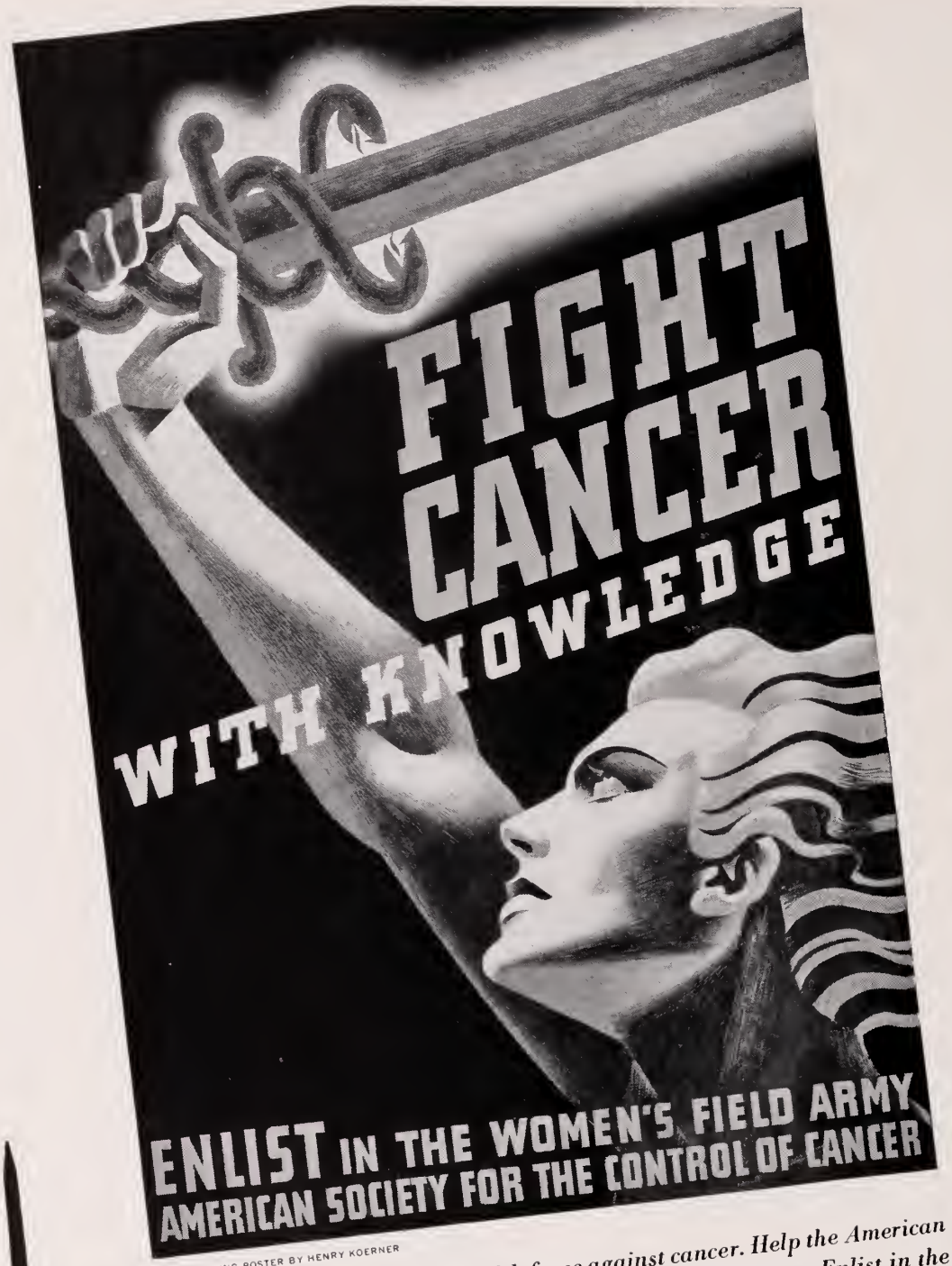

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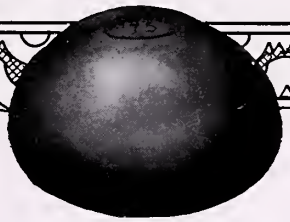

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Volume XXIV APRIL, 1941 Number 4

THE N.Y. ACADEMY OF MEDICINE
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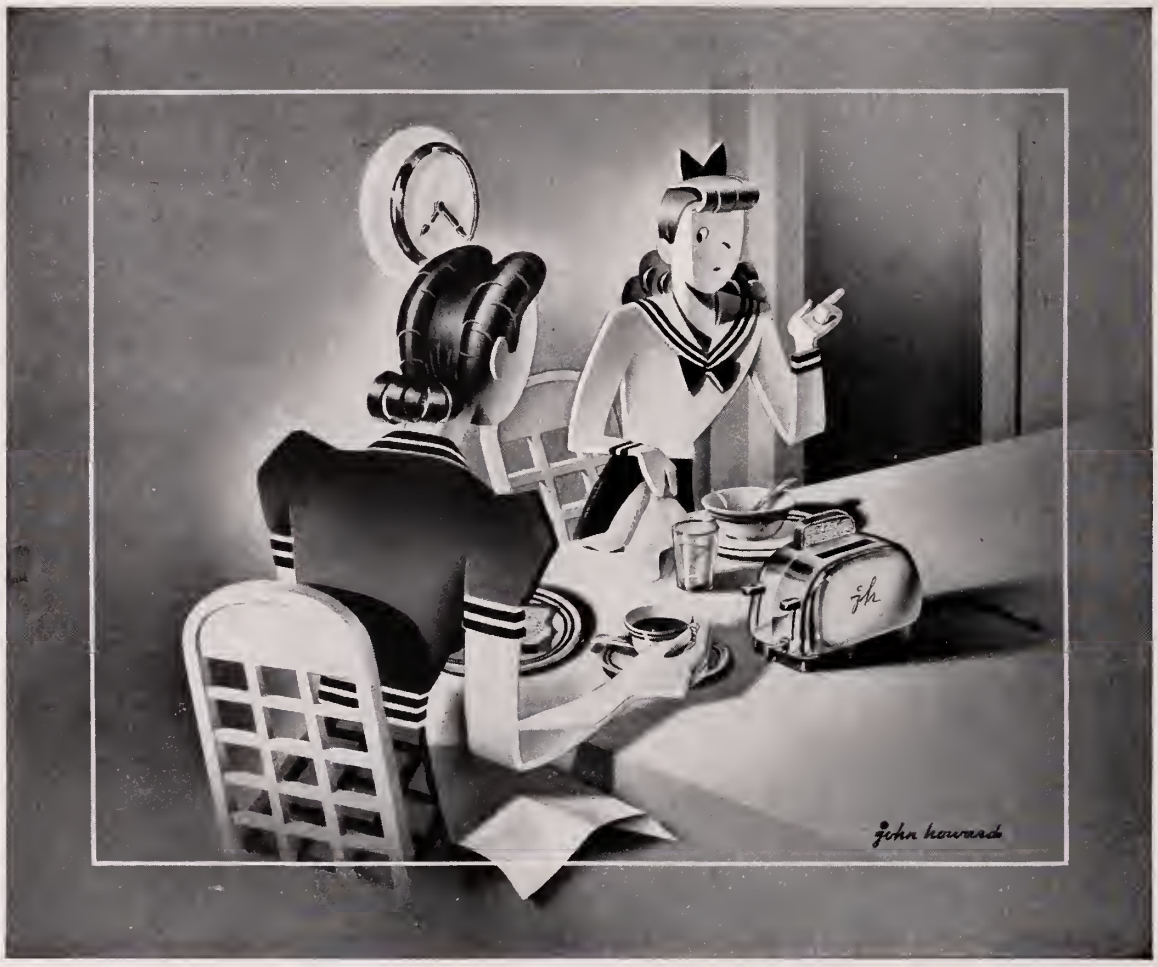

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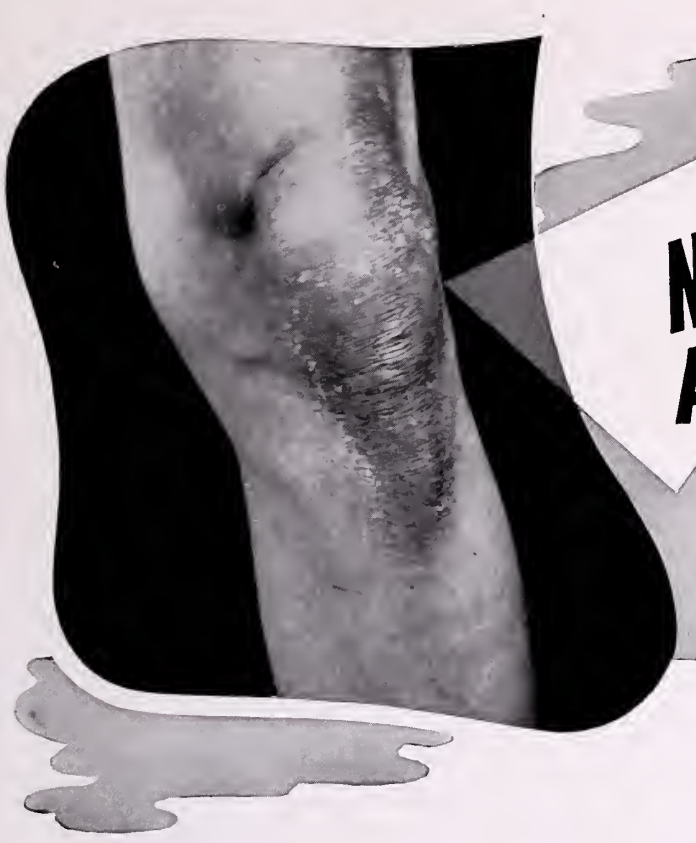

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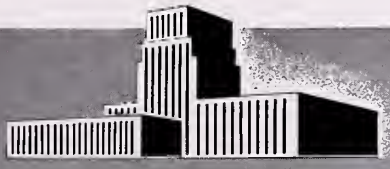

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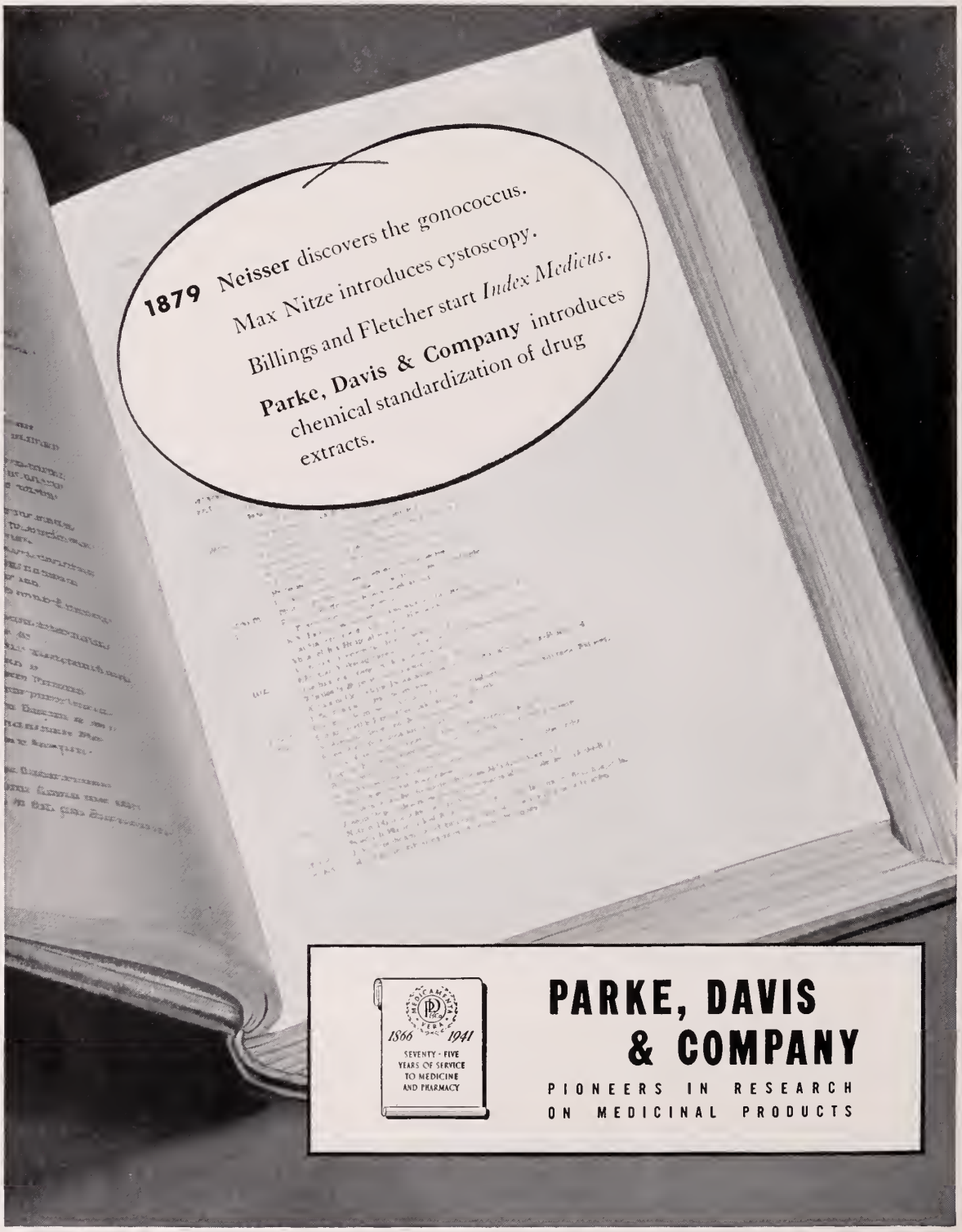
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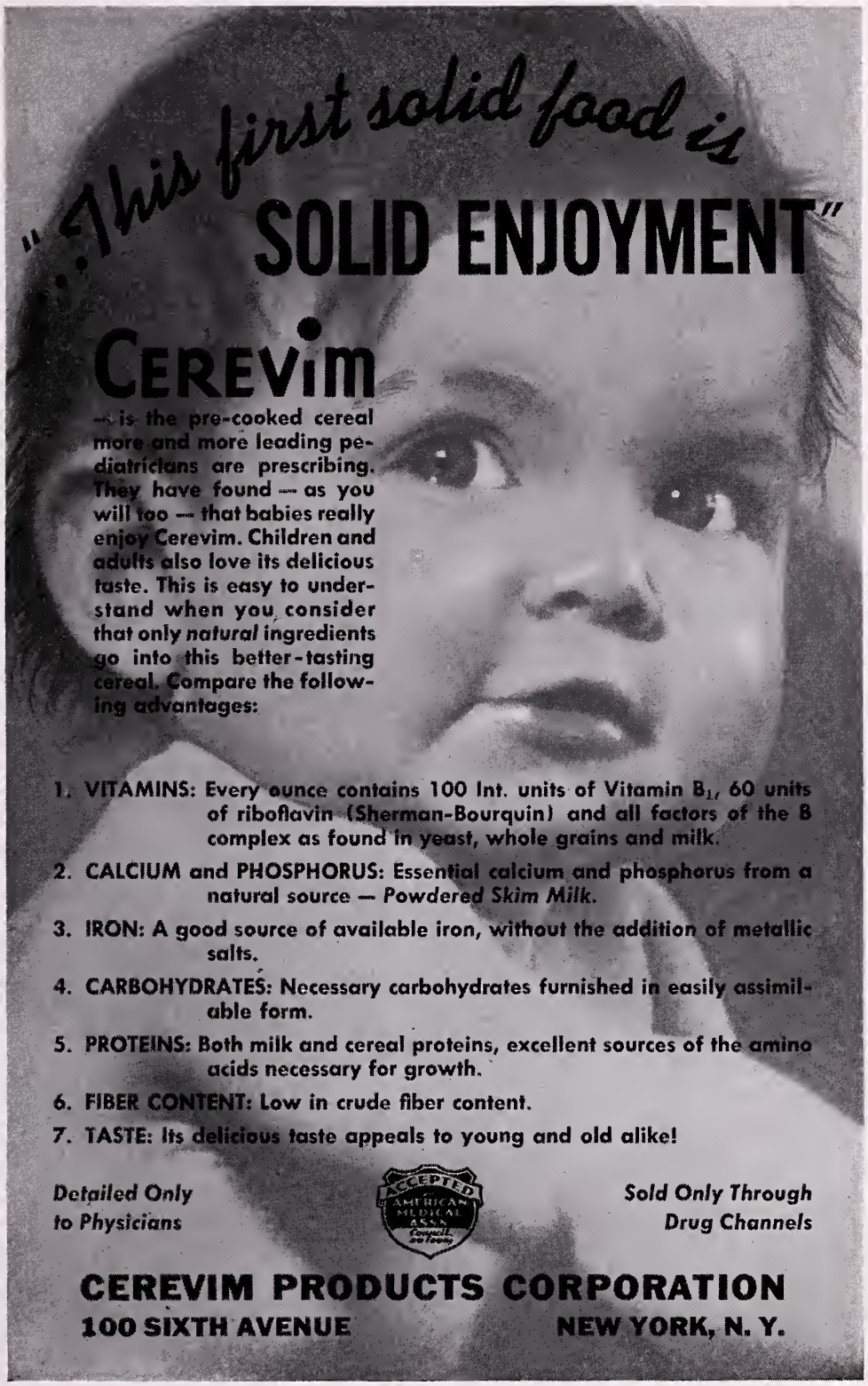
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THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV APRIL, 1941 Number 4

PROVIDENCE MEDICAL ASSOCIATION

ADDRESS OF THE PRESIDENT

JOHN G. WALSH, M.D.
221 THAYER STREET, PROVIDENCE

We gather here tonight for the 94th Annual meeting, and as provided in the Constitution of our Association, through the foresight, perhaps, of some predecessor of fifty years ago, it becomes my duty to provide the annual address, summarizing the accomplishments of the year. As I relinquish the office of President of the Providence Medical Association which I have held for the past year, again I want to thank its members for the honor they have conferred on me. It has been a great privilege to serve and to have had the fine cooperation of the other officers of the Association and of the Executive Committee without whose aid the task would have been impossible.

Had I been faced one year ago with the task of predicting the many services which this Association would render to its members during the past twelve months I daresay I would have failed. Likewise were I now to attempt a forecast of what the coming year will bring, or were I to advance any plan or project worthy of study, I should do so with serious doubts as to my ability as a seer.

This Association has continued its sturdy growth as the report of the Secretary has revealed until it has become one of the largest district societies in the country. An organization this size must continue to exert an increasingly powerful influence in medical and civic affairs of the community.

More and more we are assuming our proper place, assisting in the solution of the problems of our city, especially as they relate to medical and health matters. Four years ago this Association, through the keen foresight of its members, recognized the necessity for more active participation in all matters pertaining to the development and control of medical practice including the various health agencies clinics, industrial medicine and medical legislation, and they realized that we, as a Society, should exercise greater influence in the attempts being made to solve present day medico-economic problems. To carry forward such a program the Executive Committee, which is responsible for initiating much of the business of the Association, was augmented to ten members-at-large together with the Elected officers, and an executive secretary was appointed and established in a central office in the Medical Library. The wisdom of such a plan and the success it has attained is well-known to most of you.

Members of this Association have become active in the Council of Social Agencies, the Red Cross, the Community Fund, The Rhode Island Tuberculosis Association, The Providence Tuberculosis League, the Blue Cross, and the Providence District Nursing Association, and are assisting at the present time in the Preparedness campaign in cooperation with the State Committee for Medical Preparedness. Our influence has been further extended through the distribution of much educational data pertaining to medicine. Through the office of the Executive Secretary reprints of "The Case of Private Medicine," originally appearing in the "Nation's Business" and generally acclaimed as the best presentation of Medicine's present time status, have been distributed to schools, colleges and libraries throughout the State; as have been copies of booklets of "What It Means To Be A Doctor." Likewise schedules of Radio programs of the American Medical Association have been made available to the same institutions. During the past year thirty-four members have participated in Radio Broadcasts, giving addresses on medical topics which always are of tremendous interest to the laity. Articles concerning the activities of the Providence Medical Association and on the "Pre-School Roundup" have been edited from our executive office and published in local newspapers.

Delivered at the annual meeting of the Providence Medical Association, January 6, 1941.

This year we have undertaken the printing of "Medical News" as the official publication of this Association. This paper, published monthly, contains, besides notices of meetings, matters pertaining to our Association which are considered of interest and concern to all our members. Its success seems to have been assured from the general approval expressed by a large number of our members and from commendatory letters received from many state and district societies in other parts of the country. The executive office has distributed a Federal Income Tax guide with authoritative information that alone saved many members far more than the amount of their dues. Complete reports of all committee activities for the year have also been forwarded to each member of this Association. To the executive office as the pivotal point of the Society came daily many requests for all kinds of information concerning organized medicine.

Perhaps our greatest influence as a group has been exerted in having the long-sought-for Basic Science Law enacted and passed by the State Legislature. Its passage is a tribute to the untiring efforts of the Legislative Committee and we are indebted to those men who gave so liberally of their time to appear before Committees of the General Assembly to interpret and explain the need for such legislation. This Committee also helped to defeat many unsound measures which found their way into the legislative files.

This year has also seen the establishment, through the Committee on Credit and Collection of a reliable service for the collection of overdue accounts.

The Committee on Accident and Health Insurance, following a year of study, has published a Policy Digest, copyrighted in the name of this Association, which has been characterized throughout the Country as one of the "most original and helpful aids offered the Profession this year."

The Committee on Tuberculosis is engaged on a long range program for the control of this disease in our community. Although we have made no direct study of the cancer problem, full assistance has been given the Cancer Committee of the State Medical Society. Within the year there has been inaugurated a new plan for pre-school examination whereby the necessary physical checkup will be made by the man in general practice.

These are but a few of the many activities which could be mentioned, the supervision of which has kept the Executive Committee and the Executive secretary busy at many long meetings. Although the amount of work handled is considerable and often complicated, the Executive Committee always welcomes suggestions and advice from anyone who cares to appear before it, thus aiding in determining general policies that will be of benefit to all. The Executive secretary correlates the work of the many Committee activities, and as our agent at meetings of health and social agencies, civic and business group meetings and before governmental and legislative bodies gives these diverse agencies a clearer understanding of the aims of organized medicine, and we in turn have been able to exert more influence in helping to solve the medico-social problems of our community.

I think I bespeak the sentiment of the other officers and the Executive Committee when I say that what has been done would have been much more difficult except for the work of our very efficient Executive Secretary, Mr. John E. Farrell.

The rapid and almost revolutionary changes that have taken place in American life in the past few years following the profound economic depression of the early Thirties, have seriously threatened the professional and economic welfare of those engaged in the practice of medicine. From many sources all sorts of reforms have been proposed. The older members of this association can look back and realize the progressive changes that have taken place in medical practice as scientific knowledge has increased. But these changes have been made in such a way that the relationship between the private physician and the patient has been strengthened rather than disrupted. Although the National Health Act introduced into Congress in 1939 has been shelved for the time being there is no reason to believe that it or some similar bill may not soon reappear to plague us. It is in measures such as this, that the doctor-patient relationship is being seriously threatened.

Lay interest in medical reform is tremendous. In a recent issue of the JOURNAL of the American Medical Association, under "Current Comment" it was revealed that "a total of 715 courses covering one or more topics in Social Medicine were offered by 139 colleges and universities," but that little

use had been made in any of these courses of material available in the Bureau of Medical Economics of the American Medical Association. No discussion of the broader questions of medical services seems to have been made in these lectures and one cannot help from thinking that propaganda from private, foundational, and perhaps governmental sources may be the font of origin for these educational programs.

Much of this propaganda arising from private sources appears to come from a new type of scientist, the so-called "Social Biologist." These thinkers appear to have had a profound influence on our legislators in Washington, many of whom are advancing reforms in medical practice that will jeopardize our economic security.

It is fortunate for us as a Society, that we have at the present time on our Executive Committee, men who are thoroughly alert to the dangers that confront us. With our affairs in such able hands we cannot fail to protect our rights so that we may continue to render our community a service of inestimable value.

DANGER FROM SULFATHIAZOLE

NOTICE — Because several deaths have resulted from taking contaminated sulfathiazole, any physician who has encountered a case history of prolonged coma after the patient has taken sulfathiazole tablets is requested to report the case to the Federal Security Agency, Food and Drug Administration, A. E. Ledder, Inspector, 1128 Industrial Trust Building, Providence. Symptoms indicating phenobarbital dosage are of special interest.

COARCTATION OF THE AORTA ASSOCIATED WITH PREGNANCY

CECIL C. DUSTIN, M.D.
199 THAYER STREET, AND
AND
HENRY L. C. WEYLER, M.D.
335 ANGELL STREET, PROVIDENCE, R. I.

The prognosis in coarctation of the aorta, with or without pregnancy, is difficult to determine. Although it is possible to ascertain the amount of collateral circulation in coarctation of the aorta, it is difficult to estimate the weaknesses in the vascular system that are inherent in this condition. If the prognosis in coarctation of the aorta associated with pregnancy is approached from a statistical point of view, it is found that too few cases have been reported to allow us to come to a definite conclusion. Moreover more than half the reported cases do not give the age at death.

Mendelson[1] found 26 cases of coarctation and pregnancy in the literature and added 3 more cases. In only 11 of these 29 were the ages of death obtained. (The ages of death were 45, 25, 28, 25, 31, 57, 56, 37, 38, 30, 47.) He found that 5 of the 29 cases died in pregnancy or shortly after and that 10 were made worse by pregnancy. He concluded that pregnancy had a deleterious effect in over one-half the cases.

Forty-eight of Abbott's[2] 200 autopsied cases of coarctation of the aorta were women, indicating a predominance in the male sex. Of these cases, 72.9% of the women and 73.5% of the men died before their 41st year. The fact that a slightly larger percentage of men died between the ages of 20 and 40 might be explained by the more strenuous and hazardous life that men lead, although pregnancy is an added hazard to women.

Hamilton and Abbott[3] emphasized the fact that in the majority of cases of coarctation of the adult type, symptoms remain latent until intercurrent infection or excessive muscular exertion cause circulatory failure.

Lewis[4] noted that heart failure itself in coarctation is associated with infection or changes in the muscle found in advancing years, rather than with increased work alone.

Blackford's[5] analysis showed that 32% died of spontaneous rupture of the aorta or of cerebral hemorrhage while 70% of all cases died of cardiovascular disease. It is this inestimable weakness of the cardiovascular system in each case which makes prognosis so difficult to determine clinically in coarctation of the aorta with or without pregnancy.

Case Report

This 18-year-old girl was first seen at the Providence Lying-In Hospital on July 5, 1939, having been referred to the cardiac clinic because of unusual heart murmurs. She was born on August 22, 1921, had a normal delivery on September 16, 1939, and died on March 25, 1940, six months and nine days after delivery, at the age of 18 years and 7 months.

The patient had her last period on December 18, 1938. During the first three months of pregnancy, she had some nausea and vomiting, occasional headaches, and some difficulty in sleeping. She reluctantly admitted having had some shortness of breath on exertion and the need of two pillows in order to be comfortable in bed. At times she had slight swelling of her ankles. When she was referred to the clinic she felt well and had no cardiorespiratory symptoms. Her most significant statement was that when she became tired, it was from the waist down.

She had never been informed that any heart trouble was noted either at the time of her birth or later. She had her tonsils removed at the age of 10, had measles at the age of 12, and an abscess in her right ear without complications at the age of 13. Her past history was otherwise negative. She denied having had rheumatic fever or chorea by symptom or name. Her periods had been regular, occurring every 3 weeks and lasting 3 days with a moderate flow.

She left high school during her senior year at the age of 16 and went to work in a mill for two months. She was married at the age of 17 and became pregnant one and a half months later.

Her family history was negative. She had seven brothers and three sisters living and well.

She was a well developed and well nourished girl, 5 feet, 4 inches in height. At the beginning of her pregnancy she weighed 116 pounds and at the time of delivery 136½ pounds.

The extra-ocular movements were normal. The discs were well outlined with deep physiological cupping, more marked on the left side. The arteries and veins were somewhat narrow, with moderate general pallor of the fundi, and no hemorrhage or exudate. The foveal reflexes were present.

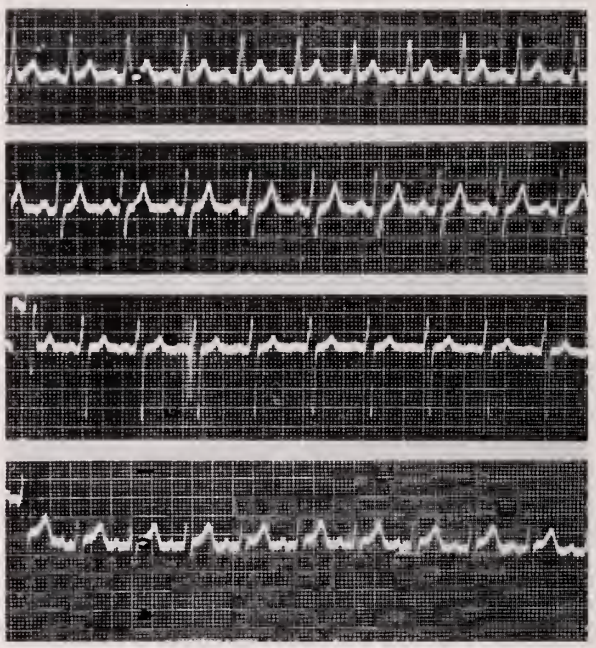

FIGURE 1. Electrocardiogram made twenty-four days before delivery. Note increase in amplitude of QRS deflections and high, pointed T waves.

In all positions there were marked expansile pulsations of the neck vessels. There was no enlargement of the thyroid. She was perfectly comfortable lying flat. On putting one's hands on the shoulders, marked pulsations were noted. There were also marked pulsations in the upper part of the interscapular region, along the course of the dorsal scapular vessels, in the superficial vessels in the intrascapular region, along the course of the lower intercostal vessels, and just below the costal margin along the course of the superior epigastric vessels. There was a loud bruit over these same vessels. The femoral artery was palpable, but somewhat smaller than usual. Pulsations in the dorsalis pedis arteries could just be made out.

The heart was enlarged to percussion to the left anterior axillary line. P_2 was accentuated and slapping in character. There was a loud, harsh systolic murmur heard over the second left interspace adjacent to the sternum, grade 4 in intensity

(graded from 1 to 6) fading out to grade 2 in intensity in the left subclavicular fossa. There was a marked systolic thrill felt over the base of the heart especially to the left of the sternum. In the fourth and fifth left intercostal spaces adjacent to the sternum a somewhat high pitched, blowing diastolic murmur, grade 2, was heard.

The blood pressure readings were always the same on both arms, varying from 120/68 to 162/82 at different times while under observation with a tendency to increase as she came nearer to term, the highest reading being 170/80 at the time of delivery. The femoral blood pressure varied from 87/78 to 90/78. At times only a few systolic beats could be heard at about 87. As the brachial blood pressure increased during pregnancy there was no parallel increase in the femoral blood pressure. Three days before delivery the brachial blood pressure was 140/80 with the cardiac findings as previously described. One week after delivery her pressure was 152/70, later dropping to 130/70. When seen in the clinic two months after delivery her blood pressure was 120/70 and her physical findings were unchanged. She felt perfectly well at this time and had no complaints.

The lungs were normal with the breath sounds somewhat louder at the right apex and left base. The liver edge could be felt two inches below the xiphoid. The spleen was not enlarged while under observation. The extremities were normal. There was no clubbing or edema. It was noted at the time that her feet seemed small. The reflexes were normal. Laboratory findings were negative.

A diagnosis of coarctation of the aorta was made as a result of the physical examination and this diagnosis was subsequently confirmed by X-ray findings.

The electrocardiogram taken on August 23, 1939, twenty-four days before delivery (Fig. 1) shows the action regular, rate 106. P waves are quite broad and slightly notched. Conduction time is normal. There is slight widening of the QRS. The QRS deflections are high and diphasic in leads 2, 3 and 4. There is a slight tendency toward left axis deviation. The T wave is rather high and pointed in all leads. In general, the tracing is similar to those seen in congenital heart disease. The electrocardiogram taken on October 30, 1939, six weeks and two days after delivery, (Fig. 2) is almost identical with the previous tracing except for a flattening of T_3. X-ray examination of the chest on August 23, 1939 in the antero-posterior view shows the heart enlarged. (Fig. 3) The aortic knob is not identified. The supracardiac shadow is narrow. The left border is unusually straight with a prominence in the region of the pulmonary conus. There is scalloping of the ribs on both sides from the third to the seventh inclusive. There is increased density of the hilus shadows particularly on the right and in the bronchial tree. The lungs show no active pathology. There is no fluid in the pleural spaces. Findings are typical of coarctation of the arch of the aorta.

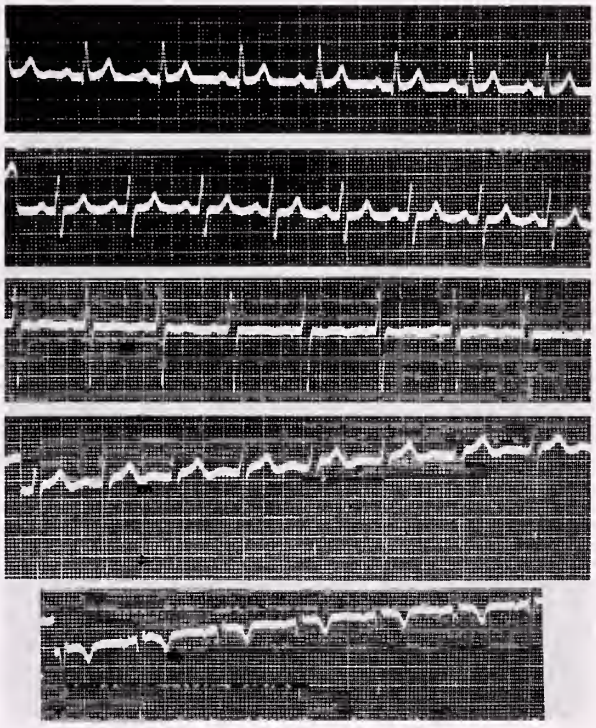

FIGURE 2. Electrocardiogram made six weeks postpartum. Note similarity to Figure 1 except in flattening of T3. Fifth lead right of sternum.

The patient was admitted to the State Infirmary on March 7, 1940 because of loss of weight and fatigue of about five weeks' duration. She complained of a mild orthopnea but denied all other cardiorespiratory symptoms. Her blood pressure was recorded as 146/60. It was noted that she had

two small petechiae under the lower left eyelid. The liver and spleen were palpable. No tenderness or pulsations were noted.

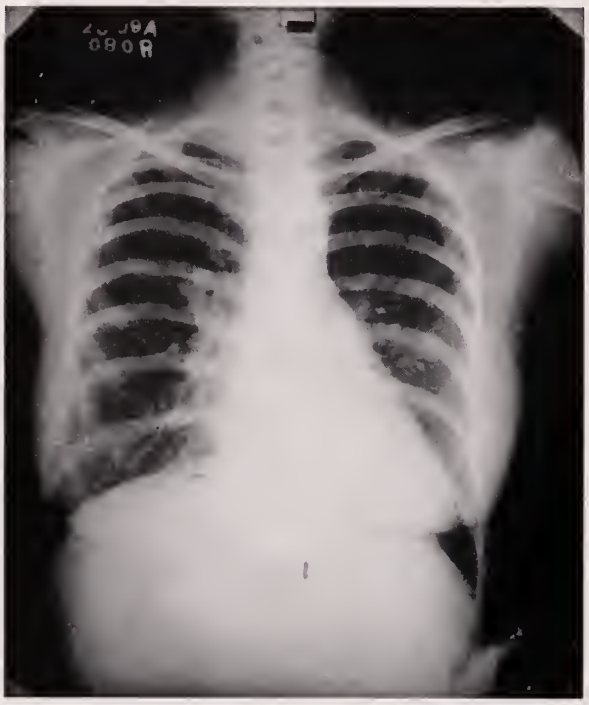

FIGURE 3. Teleoroentgenogram showing enlarged left ventricle, straight left border, prominence in region of pulmonary conus, narrow supracardiac shadow and scalloping of ribs. Twenty-four days before delivery.

A diagnosis of subacute bacterial endocarditis was made and she was treated with sulfapyridine. On March 25, 1940 she suddenly developed dyspnea, cyanosis, orthopnea, and a rapid and feeble pulse and lost consciousness. She regained consciousness after oxygen and stimulants were given. Thirty minutes later she developed the same symptoms and died.

Laboratory findings at the State Infirmary were as follows: There was a rapid sedimentation rate. Staphylococci were found in the urine on more than one occasion. One blood culture was negative. The white blood count was 10,700, with 77% neutrophils.

X-ray examination made twelve hours after admission revealed a marked enlargement of the heart with extensive mottled density throughout both lungs. There was no fluid in the pleural cavity.

There was no autopsy.

Comment

Coarctation of the aorta associated with pregnancy is probably much less rare than the few reported cases indicate. In order to determine the incidence of death in this condition and to better evaluate the effect of pregnancy on women with coarctation of the aorta, it is necessary that more such cases be reported.

The electrocardiograms in coarctation of the aorta have no characteristic identifying features. If there are associated abnormalities placing appreciable strain on the heart, there may be right or left axis deviation, the type and degree of deviation depending upon the functional disturbances. Since arterial hypertension in the upper part of the body is a characteristic finding, one would expect to find left axis deviation. Cases have been reported with normal axis.

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CHEMOTHERAPY IN INFECTIONS OF THE GENITO-URINARY TRACT

HOWARD K. TURNER, M.D.
199 THAYER STREET, PROVIDENCE, R. I.

During the past five or six years the discovery of several chemotherapeutic drugs has changed the entire outlook on the treatment of urinary tract infections. The first of these drugs to appear was mandelic acid, which was discovered after a search for an organic acid which would act in the urine like beta-oxybutyric acid. It has been previously observed in patients suffering from acidosis that beta-oxybutyric acid was a bactericidal agent.

Read before the Providence Medical Association, February 3, 1941.

Mandelic acid in sufficient concentration in a urine of sufficient acidity will kill all organisms except the streptococcus faecalis and the gonococcus. Calcium mandelic in doses of 8 to 14 grams daily and enough ammonium chlorid to make the p.H of the urine 5.2 or below is the method of administration. We have all had many failures with mandelic acid but the failures were due to lack of concentration of the mandelic acid or that the acidity was not great enough. Damaged kidneys excrete mandelic acid poorly. In many cases it is not possible to acidify the urine without nauseating doses of urinary acidifiers.

Mandelic acid has but few toxic effects other than occasional nausea and the malaise of a chemical acidosis. This drug is still valuable even though it was soon overshadowed by sulfanilamide.

Sulfanilamide has the advantage that it will act in an alkaline as well as an acid urine. Even damaged kidneys are capable of excreting sulfanilamide in concentrations that are bactericidal. In doses of 6.0 grams daily for two or three days and then reducing the dose to 4.0 grams daily or even less sulfanilamide should kill all organisms in the urinary tract including the gonococcus but not the streptococcus faecalis. A survey of the literature shows that 70% of the cases of gonorrhea are cured by sulfanilamide. The high initial dosage is used to kill off most of the organisms at the outset so as to discourage the development of drug resisting strains of the organisms.

Sulfanilamide, however, is a very toxic drug capable of doing severe damage to the tissues of the host. Fever, cyanosis, skin rashes, anemia, leucopenia, nausea, vomiting and liver damage make this drug a dangerous one to use.

Prentiss and Flocks reporting on one hundred and eleven cases that had been receiving sulfanilamide in doses of 6.0 grams daily for 2 days then 4.0 grams thereafter found evidence of liver damage in 49.5%. In this 49.5% the van-den-Bergh readings were above 1 and of these 63% were direct readings indicating true hepatic damage. They also report that jaundice both early and late was one of their commoner complications and they think that patients with definite liver damage should not receive sulfanilamide. Prentiss and Flocks even go so far as to suggest that patients given sulfanilamide today may have hepatic cirrhosis tomorrow.

Sulfapyridine was introduced a few months after sulfanilamide. It originally was intended to be used against the pneumococcus about which Dr. Cutts will tell you, but it was not long before it too was found to have killing powers for bacteria in urine. It is even more efficacious against the gonococcus than sulfanilamide. A survey of the literature shows it to be successful in 84% of the cases. It, like mandelic acid and sulfanilamide has no antiseptic properties against the streptococcus faecalis. Effective doses of sulfapyridine are 1 gram every 6 hours for 3 or 4 days and then 0.32 grams every 8 hours for 2 days or more. Sulfapyridine has its toxic symptoms also which are like those of sulfanilamide only they are less common and not so severe. Sulfapyridine acts against the gonococcus in the tissues and not by way of the urinary flow. Reed Nesbit treated a case of gonorrhea with it with striking results in a patient who had previously had bilateral ureterosigmoidostomies done for intractable cystitis and no urine whatever passed through his bladder and urethra.

Sulfapyridine is excreted in the urine in the acetylated form which precipitates as sheaf like crystals which will form urinary calculi. We have observed and treated one case of bilateral calculus anuria in a man 48 who had received a total dosage of 19 grams in 4 days for pneumonia. At cystoscopy grayish white calculi were seen to be plugging each ureter orifice. The patient had excreted no urine whatever in the previous 12 hours. Fortunately the stones were of the consistency of soft putty and it was not difficult to burrow through them with ureter catheters which were passed to the kidneys and left in place. The catheters were irrigated with warm water which is a good solvent for acetylated sulfapyridine crystals. The catheters were withdrawn at the end of 36 hours and there was no further difficulty in urinary tract.

In 1939 Sulfathiazole was reported by Fosbinder and Water. It has been found to be effective against all organisms found in the urinary tract. Its effectiveness for these organisms on an ascending scale is as follows: Pseudomonas aeruginosa, strepococcus faecalis, Escherichia coli, aerobacter aerogenes, Proteus ammoniae and staphylococcus aureus. It will be noted that sulfathiazole is the one drug that will kill the streptococcus faecalis but curiously only when the p.H of the urine is low (5.2). Against all other organisms it is more effective at high hydrogen ion concentrations.

Against the gonococcus sulfathiazole is the most effective drug known today. In 100 cases reported by Burkholder and Bang there were 92% cured. Their patients were given an initial dose of 4 grams and then 1 gram every 4 hours for 14 days. The average blood concentration with this dosage was 6.0 mgms %. It is quite likely that this dosage is too high. If 2 or 3 grams daily will not sterilize the urine larger dose will probably not either.

Sulfathiazole is also toxic but to a far less degree than sulfanilamide and sulfapyridine. There were 13 reactions among the 100 cases reported by Burkholder and Bang. 6 had a rash, 5 had mixed bulbar conjunctivitis, 1 had urticaria with painful swollen joints which subsided completely within 24 hours on withdrawal of the drug, 1 had nausea, 5 had fever, and 1 had transitory leucopenia of 2,700 white blood cells. There were no anemias and no other complications.

Sulfathiazole, like sulfapyridine is excreted in the acetylated form which form crystals in the urine. The crystals are small and are often found in the tubules of the kidney which they have been known to plug so completely that death from uremia has followed. It is absolutely necessary when giving sulfathiazole to see to it that the daily urinary output is at least 1500 cc's. Patients should be watched daily preferably in the hospital and frequent blood counts and blood sulfathiazole determinations should be done.

Summary

We have tried to crowd into a ten minute paper the present status of chemotherapy in urinary infections. It would seem that sulfathiazole is in every way superior to the others. At a concentration of 200 mgms per 100 cc of urine it will cure practically all infections in the urinary tract in which there is no underlying mechanical difficulty such as a foreign body, residual urine or a hydronephrosis.

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THE RHODE ISLAND MEDICAL JOURNAL

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EMMA PENDLETON BRADLEY HOME

The Emma Pendleton Bradley Home in East Providence celebrates the tenth anniversary of its opening on April 8th, at which time a hospital unique in medical annals completes its first decade of service to the children of Rhode Island.

The Bradley Home came into existence through an endowment left to establish an institution devoted to the study and care of children suffering from nervous disorders. It is the good fortune of the medical profession of Rhode Island that the donors of this endowment wished the Bradley Home to be erected within this state, and that far-seeing trustees, among them our colleagues, Dr. Charles V. Chapin and Dr. Arthur H. Ruggles, have seen to it that the Bradley Home was established as a *hospital*, operating under medical direction and accepting as patients only children referred directly by practicing physicians. In order not to duplicate facilities already available in Rhode Island the Bradley Home has never accepted children for custodial care alone, or provided for the

training of mentally deficient children. However, over a ten-year period approximately 600 boys and girls of good intelligence but presenting severe personality and behavior problems and neurological conditions, such as convulsive disorders and cerebral birth palsies, have been admitted. Many of these children have been treated for long periods of time. Although often patients have been referred to the Bradley Home as a measure of last resort, when medical and community facilities elsewhere have failed, a gratifying response to treatment has been noted in the majority, many of whom have gone on to healthy and useful lives in the community.

It is significant that during the depression years, as a result of a policy allowing Rhode Island children to be treated at greatly reduced rates, over 30 per cent of the patients have been treated entirely without cost to their families, and over 80 per cent have been cared for at rates representing less than a third of the cost of their care. It is to be hoped that so significant a service to underprivileged children may be continued.

The staff of the Emma Pendleton Bradley Home has been, of course, primarily concerned with the care of children referred to the hospital for treatment. However, professional training of physicians and nurses, and an active program of scientific research at the hospital have attracted interest beyond the bounds of Rhode Island. More than 50 physicians from widely scattered localities in the United States and Canada have received training while serving on the house staff during the past ten years. A dozen nurses have completed postgraduate study at the home. Nearly sixty publications of a scientific nature have already emanated from studies carried on in the wards and laboratories of this one small hospital. Particularly noteworthy among these are those connected with electroencephalography, with the drug treatment of children's neuropsychiatric disorders, and with studies on schizophrenia in childhood.

The guiding genius of Dr. Ruggles, who has served as trustee and as superintendent of the hospital since its opening in 1931, must be given much of the credit for the present pre-eminent position of the Emma Pendleton Bradley Home in the medical world. It is to be hoped that the fine work which he and his colleagues have so successfully organized and stimulated will continue for many more decades in the future.

IN 1889 THE AMERICAN MEDICAL ASSOCIATION MET IN NEWPORT

The Fortieth Annual Meeting of the American Medical Association was held at Newport, Rhode Island, June 25 to 28, 1889. The general meeting convened at Music Hall; meetings of the ten sections were held in near-by halls and churches.

In his Address of Welcome, Henry E. Turner gave a running account of the medical history of Newport, of Dr. John Clarke, founder of the first settlement, of Dr. William Hunter and his lectures on Anatomy, of Dr. Isaac Senter and of Dr. George Berkeley. Senator William P. Sheffield gave an Address with the title:—"John Clarke, Physician, Philanthropist, Preacher and Patriot." The Address on Medicine was give by Frederick C. Shattuck; the Address on Surgery by Phineas S. Connor; the Address on State Medicine by William H. Welch; the Address on Ophthalmology by George E. Frothingham.

Sir James Grant of Ottawa, Canada, read an Address on "The Progress of Medical Science during the past Half Century." P. S. Abraham of London spoke on "The Etiology of Leprosy." George Apostoli of Paris contributed a paper on "The Treatment of Salpingo-ovaritis by Electricity."

J. H. Musser spoke on "The Clinical Aspects of Vomiting"; Francis Delafield on "Chronic Endocarditis"; James Tyson on "Premature Labor in Bright's Disease"; Solomon Solis-Cohen on "Food in the Treatment of Consumption"; Maurice Richardson on "Surgery of the Peripheral Nerves"; Arthur T. Cabot on "Operations for Stone in the Bladder"; Robert T. Morris on "What Dressing should be next to the Wound"; J. C. Warren on "Management and Treatment of Large Herniae"; Henry O. Marcy on "The Cure of Hernia by the Use of the Buried Animal Suture"; Charles V. Chapin on "The Purification of Drinking Water for Cities."

William Pepper delivered an Address on "The Life and Labors of Benjamin Rush." Horatio R. Storer, in a paper on "The Medals of Benjamin Rush," found that Rush was the first to suggest employment of anesthesia in obstetrics.

John B. Deaver served as Secretary of the Section on Surgery and with Herman Knapp, W. H. Pancoast, William Brodie, William Osler, and other men of international reputation too numerous for mention here, read and discussed papers.

An extensive entertainment program was provided by the local Committee on Arrangements but the scientific program was of such interest that these attractions were, for lack of time, conspicuously neglected. Apologetically the Editor of *The Journal* of the American Medical Association stated "Nothing but an enthusiastic interest in the real work of the Association could have prevented its members from giving themselves over to a continued round of most attractive entertainments at the City of Newport—A day never to be forgotten was that when—after the Association-work was over—the Rhode Island Medical Society treated its guests to an old-fashioned "clam-bake" on the shores of Narragansett Bay."

THE MEDICAL HOME GUARD

In the event of a national emergency, in which the armed forces of the United States are mobilized, a large number of medical men, now in civil life, will be commissioned as officers and will serve as such; but the entire profession will be called into service. In a country at war the entire population becomes involved. In the case of the medical profession the job is not only to protect the health of the people involved in the essential industries at home on which those fighting forces depend, but also to continue, as always, to furnish the best possible care to the civilian population. At the present time the American Medical Association has on file data regarding every doctor in the United States, which are at the service of the government. Mobilization will mean mobilization of the entire profession. Those whose training and condition make them suitable for duty with troops will be so placed as far as they are needed. The others who remain in civil life will be expected to do their no less important duty as a part of the patriotic response of the doctors of the country to the existing need. This will mean extra work, even hardship at times, and a role which, if apparently less heroic than that of their colleagues in active service, is no less essential to successful national defense. In the case of hospitals it will mean that the remaining staff physicians must accept double or even continuous duty. It will also mean that in hospital practice the places temporarily made vacant by the men in service must be kept open for them to step into on their return to civil life, and that in private practice their patients must be conscientiously cared for by their colleagues in their absence and eventually returned to them. The practice of collecting fees from such patients and turning over a proportion of these fees to the families of the physicians in service should be conscientiously carried out.

Modern warfare or "total war", as it has been called, now is directed against entire populations. At the present time a London hospital orderly faces more danger than a British infantryman, and his work is of equal importance to his country. When the medical profession of this country is mobilized, every doctor will be involved, and in the city, in the country or with the armed forces each will have ample opportunity to do his full share.

RHODE ISLAND MEDICAL SOCIETY

Treasurer's Report of the Budget

INCOME FOR 1941

Annual Dues	$4,600.00
Interest from Harris Fund	256.40
Interest from Morgan Fund	30.10
Providence Medical Association, Use of Building	450.00
Office, Executive Secretary	300.00
Use of Building	50.00
Exhibitors, Annual Meeting, Less Expenses	550.00
	$6,236.50
Balance in Bank January 1, 1941	2,352.39
	$8,588.89

E. M. HARRIS FUND

26 shares Nicholson File Co.	$49.40
General Public Utilities Co.	156.00
A-NY & B-NY Realizing Corp.	51.00
	$256.40

JAMES R. MORGAN FUND

34 shares Providence Gas Company	$30.10

EXHIBITS — ANNUAL MEETING

Total Receipts from Exhibitors	$710.00
Expenses	149.47
Net Profit to Rhode Island Medical Society	$560.53

BUDGET — 1941

Collations and Annual Dinner	$700.00
Expenses of Secretary, Secretary service	100.00
Printing and Postage	225.00
Fuel	600.00
Gas	50.00
Electricity	100.00
Telephone	125.00
City Water	25.00
House supplies and expenses	300.00
House repairs	300.00
Janitor	840.00
Safe Deposit	7.00
Treasurer's Bond	25.00
Librarian	1,660.00
Delegate to American Medical Association	100.00
Medical Library Association Dues	15.00
Radio Talks, mimeographing and distributing	50.00
R. I. Medical Journal, donation according to membership	245.00
Expenses of Committees	75.00
Assistant in Library	1,040.00
	$6,582.00

Correction

Minutes of the Meeting of the Council, January 16, 1941. R. I. M. J., March, 1941, p. 51.

Dr. Mark Rittner of Providence is a member in good standing of the Rhode Island Medical Society.

NEWPORT COUNTY MEDICAL SOCIETY

Minutes of the Meeting Held February 25, 1941

The regular meeting of the Newport County Medical Society was held on Tuesday, February 25, 1941 at the Newport Hospital at 8:45 P. M. Dr. Samuel Adelson presided. Minutes of the previous meeting were dispensed with. Dr. Norman MacLeod, chairman of the local committee for the Rhode Island state meeting in Newport in May, rendered remarks on the progress being made for the coming meeting. There was no new business.

The chairman called on Dr. Callahan to introduce the speaker of the evening, Dr. Ernest Daland, Surgeon in Chief of Pondville Hospital and Associate Surgeon at the Massachusetts General Hospital. The subject was, "Cancer of the Gastro-intestinal Tract." The speaker prefaced his medical talk with a history of the origin of the state-maintained hospital at Pondville for the treatment and care of cancer patients. This is part of the state-wide educational program for cancer cases in Massachusetts.

1. *Cancer of the Esophagus.*

At one time nothing could be done for these patients. Now they can be successfully operated upon with the aid of the thoracic surgery. The diagnosis of these cases is usually made conclusively by X-ray although the esophagoscope and biopsy are of great assistance.

Radiation with radium is ineffective because most of the growth is outside the tube. X-ray therapy is better but there is great chance of perforation. It should be used only in small quantities over a period of thirty days. The operation of choice is an abdominal approach for an anastomosis followed by a thoracic operation to remove the esophagus.

2. *Cancer of the Stomach.*

This condition is more prevalent than at once thought. It is imperative to do a G.I. series early as early diagnosis is of utmost importance. Most patients with vague abdominal symptoms should always have an X-ray study as many suspected cases of ulcers are really cancer. A patient with the usual signs of ulcers of the stomach or duodenum that do not respond to a six-weeks sippy diet regime very frequently have cancer.

Analysis of the stomach contents is often misleading as many cancer patients may have an increased amount of acid. A good many of these ulcers may become cancerous. One of the greatest aids in diagnosis of cancer of the stomach is the gastroscope but this requires a special technique in its use.

Treatment:

X-ray and radium are useless. Surgery is always indicated. Actual visualization is really the only way to tell if the cancer is operable or not. One out of four has liver melatases but most cases are hopeless only because of extensive glandular involvements.

Types of Operations:

A total gasterectomy is a four hour operation, always risky, but is being done with some good results. Sub-total gasterectomy is a better risk and gives about 20% cure. Unfortunately prognosis of cancer of the stomach is still poor with any operation. In obstruction of the lower end of the stomach

due to cancer, a gastro-enterostomy is not of much help. It is better to do a trans-section of the stomach and then join with the jejunum.

3. *Cancer of the Colon.*

The lower the lesion in the colon the more malignant is the growth, so that those cancers of the right side of the colon are usually less malignant than those of the left side of the colon or rectum. Cancer of the right colon or cecum usually calls for the choice of two types of operations. The first is a two-step operation: (a) A short circuit of the terminal ileum. (b) Removal of the right colon. This is better than the next operation which is a Mikuliezc operation which involves long drainage.

In cancer of the left colon there are two operations. Cecostomy and after five days followed by a resection of the tumor and colon and then an anastomosis. This is the preferred operation to a Mikuliezc. Results are satisfactory.

In cancer of the rectum and sigmoid there are three operations. First: A colostomy which is used on inoperable types or poor risks. Second: For a low lesion patient a colostomy followed by a posterior excision from below. Third: A complete abdominal perineal resection which is best of all and done in the one or two operation.

Conclusion:

In conclusion the speaker stressed the fact that a good preoperative preparation is of great importance in all cancer operations for best results.

Following the talk a very interesting discussion followed which was then followed by a rising vote of thanks to the speaker. There were numerous Army and Navy Medical officers present.

The meeting adjourned at 10:55 P. M. and was followed by collation.

Respectfully submitted,

Alfred M. Tartaglino, M.D.,
Secretary.

PROVIDENCE MEDICAL ASSOCIATION

February Meeting

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, February 3, 1941. The meeting was called to order by President Murray S. Danforth at 8:30 P. M. The Secretary read the minutes of the preceding meeting which were approved. The Secretary reported that the Executive Committee had authorized the Executive Secretary to be the legislative agent of the Association before the General Assembly during 1941.

The President announced the appointment of Drs. John M. Peters and Dennett L. Richardson to serve as a committee to prepare the obituary of the late Dr. Charles V. Chapin.

Dr. Harry C. Messinger read a resolution endorsing the educational campaign of the American Social Hygiene Association. This resolution was approved by the Association.

> Whereas, the American Social Hygiene Association, Inc. has seen fit to declare Wednesday, February 5, 1941, as National Social Hygiene Day for the purpose of focussing the attention of the general public on the importance of guarding against venereal disease, and
>
> Whereas, the Providence Medical Association has always been willing to lend its support to any campaign directed towards the elimination of disease from this community,
>
> Therefore, this Association in meeting assembled this third day of February 1941 does hereby fully endorse and support the educational campaign and the national observance of Social Hygiene day sponsored by the American Social Hygiene Association Inc.

The President announced that any new members who had not signed the Constitution should do so immediately after the meeting. The Secretary reported that the Executive Committee had recommended for election to active membership Dr. Joseph C. McWilliams. Dr. Jesse Mowry moved the acceptance of this candidate and the motion was passed.

The President announced the scientific program on the subject of "Chemotherapy" and introduced Dr. Howard K. Turner who spoke on "Chemotherapy in Infections of the Genito-Urinary Tract." Dr. Turner pointed out the great advances in this field with the advent of the sulfanilamide compounds and emphasized the effectiveness of sulfathiazole against a great many infecting organisms in the urinary tract. Dr. Morgan Cutts spoke on "Chemotherapy in Pulmonary Infections" and outlined the use of sulfapyridine and sulfathiazole and emphasized early vigorous treatment and careful at-

tention to the maintenance of adequate urinary output. Dr. Kalei K. Gregory spoke on "Chemotherapy in Meningococcal Infections" pointing out the great value of early adequate administration of sulfanilamide. Dr. Champ Lyons, Resident Surgeon at the Massachusetts General Hospital, spoke on "Chemotherapy in Osteomyelitis and Compound Fractures", and discussed a great deal of his experimental work in this field. Among other things he advised against the primary closure of potentially infected wounds and pointed out that sulfathiazole alone was frequently ineffective in staphlococcal bacteremia, if unaccompanied by adequate surgical drainage.

The papers were discussed by Drs. Herbert E. Harris, Reginald A. Allen, Vincent Oddo, William Horan, and by Russell Bowman.

The meeting adjourned at 10:25 P. M. Collation was served. Attendance: 145.

Respectfully submitted,

FRANK B. CUTTS, M.D.,
Secretary.

RHODE ISLAND MEDICAL JOURNAL

Report of the Managing Editor for 1940

On January 1, 1939, the Rhode Island Medical Journal had cash on hand, $362.64, unpaid bills, $775.36, showing a deficit of $412.72. On January 1, 1940, there was a balance of $502.87, with all bills paid. On January 1, 1941, there was a balance of $1,143.62, with all bills paid. Following is a statement for the year 1940, with a comparative statement for 1939.

January 1, 1939, Cash on hand	$362.64
Receipts from subscriptions and advertising	3,957.38
	$4,320.02
Expenditures	
Printing and mailing	$2,473.83
Engraving	37.55
Postage	20.00
Address plates	10.41
Back bills paid	775.36
Managing Editor	500.00
	$3,817.15
January 1, 1940, Cash on hand	502.87
	$4,320.02
January 1, 1940, Cash on hand	$502.87
Receipts from subscriptions and advertising	4,559.98
	$5,062.85
Expenditures	
Printing and mailing	$2,842.24
Engraving	118.02
Postage	31.08
Address plates	7.27
Stationery	7.00
Managing Editor	500.00
Advertising solicitor for Convention Number	413.62
	$3,919.23
January 1, 1941, Cash on hand	1,143.62
	$5,062.85

In 1940 the number of pages, the proportion of reading pages and the number of cuts were increased. Average distribution for 1940, 931 copies Cost per page in 1939, $6.64, in 1940, $8.16.

Pages of	*Reading Matter*	*Advertising*	*Total*
1938	192	214	406
1939	206	252	458
1940	226	254	480

The Rhode Island Medical Society has contributed to the support of the Journal as follows:—$400.00 to $450.00 each year from 1917 to 1927, nothing in 1928, $430.00 each year in 1929-1930, nothing from 1931 to 1938, $243.00 each year in 1939-1940.

Respectfully submitted,

ALBERT H. MILLER, M.D.,
Managing Editor.

CLINICAL PATHOLOGICAL CONFERENCE

RHODE ISLAND HOSPITAL

Tuesday, April 9, 1940

Case presented by Dr. Morgan Cutts

A 69 year old Irish female patient admitted to the Rhode Island Hospital, January 4, 1939, discharged January 8, 1939.

Present Illness: Three months ago she had a fall but walked home after it without difficulty. It seems likely that this is merely a date that the patient remembers rather than having anything to do with her illness. However, soon after this, she noticed a mass in the right lower quadrant, not painful,

which would sometimes seem soft and sometimes hard and gradually increased in size. A doctor who saw her at this time confirmed the finding of the mass and also told her that she had a weak heart.

Five weeks ago she went to bed because of increasing loss of weight and weakness. She had very little appetite and bowels were irregular. She said that had been so for some years before.

Family and Past History: Essentially non-contributory. No previous cardio-respiratory nor genito-urinary symptoms. No abdominal pain, nausea nor vomiting. No vaginal bleeding since menopause, many years before.

Physical Examination: T. 100. This went down to normal after the first day and rose to 100 the day of her death. P. 120. Pulse totally irregular. There was pulse deficit between elbow and wrist. R. 18, B. P. 110/30. Emaciated — lying flat in bed without discomfort. Pallor or mucous membranes. Heart enlarged to the left in the region of left ventricle both by X-ray and percussion. Large mass in right lower quadrant, firm, non-tender, fixed. It was not fixed to the overlying skin. It was apparently definitely not the liver or not attached to the liver. The upper border could be felt at about the level of the umbilicus. The lower border could be felt extending below the pelvic brim and likewise the left lower border. Abdominal mass felt by rectal examination, extending down into the pelvis where it could be palpated through the abdominal wall.

Blood: Hgb. 30%, R.B.C. 1.76 m, W.B.C. 21,500.

Urine: Negative, two specimens.

Wassermann: Negative.

Electrocardiogram: Auricular fibrillation, digitalis effect.

X-ray: Negative except for a slight enlargement of the heart.

Blood Chemistry: Total protein 4.3, Urea N. 9, Glucose 97.

Note: Surgical and Gyn. consultants felt that the mass was probably a malignant cystadenoma of right ovary and inoperable. Patient became progressively weaker and died quietly on her fifth hospital day.

Discussion

Dr. Morgan Cutts: — There was acute terminal event but she went out slowly and surely. The diagnosis at that time and the feeling on the part of everyone who saw her was that she had a malignancy, probably arising from the pelvic organs, most likely from the right ovary, to explain this mass in the right lower quadrant. Everyone also agreed that she had arteriosclerotic heart disease and auricular fibrillation. The obvious explanation for the edema seemed to be the low serum protein. There is really very little other data to bring out. I think no one will question very much that she had auricular fibrillation and she did have arterio-sclerosis. Of course you can speculate whether the auricular fibrillation was due to an accident —at the time she fell but this seems to be too far fetched to bring in. I think her edema is probably explained on the basis of her low serum protein. Her hands also showed the edema.

In regard to the mass in the right lower quadrant, I think, with the evidence given, the explanation offered is the most reasonable one to expect. It was evident there was a great loss of weight which suggests malignancy. She was in the right age group. The story that it was sometimes soft and sometimes hard suggests some sort of cystic tumor with possible bleeding at intervals and reabsorption of fluid to change the consistency. Of course there are any number of possibilities that would give you a mass in the right lower quadrant.

One peculiar thing seems to be the white count. It seems a little unusual to have a pelvic malignant tumor with a white count of 21,000. Although there is no history to bear this out it is entirely possible that she has a large inflammatory mass in the pelvis and perhaps the commonest cause would be a ruptured appendix with an appendiceal abscess. That would be my second possibility. I think it would be rare to have a myoma of the uterus or a tumor involving the uterus situated in this position without advertising itself for a long time.

My guess would be — First, Malignant cystadenoma of the ovaries and arteriosclerotic heart disease; second, inflammatory mass in the right lower quadrant, probably due to a ruptured appendix.

Dr. Clarence Bird: — I am struck by the fact that this patient had considerable anemia to explain. That is frequently due to carcinoma of the cecum and I would rather favor that diagnosis in a guess of this type. A degenerating tumor of the fundus of the uterus occasionally causes a certain amount of anemia. Ordinarily there is bleeding from the uterus, there was not in this case. Were there any stools examined for blood?

A.: There is no record of it.

Dr. Bird: — This patient noticed that the tumor was sometimes soft and sometimes hard. Sometimes in tumor of the colon the bowel balloons up over it.

As far as the size is concerned this is larger than most tumors of the cecum are found to be. She had lost considerable weight, which might accentuate the size of the mass and it might have perforated and caused an increase in size. I think the matter of no obstruction has nothing to do with it. There is seldom obstruction in carcinoma of the cecum.

Q.: How large was this mass?

A.: It filled the right lower quadrant.

Postmortem Findings

Dr. B. Earl Clarke: — There was a terminal pneumonia and as far as the heart is concerned there was a minimal amount of fibrosis. The interesting findings are in the abdominal cavity. This large mass (demonstrates specimen) was found in the pelvis, it measures 17 cm. in diameter. The colon is stretched about it here and the duodenum is pulled down and adherent to it here and there are numerous loops of small intestine adherent to it elsewhere. Here the ascending colon is open so that we see its mucosa. The tumor is pushing it up in a nodular manner and there is a definite perforation here. Our belief is that it is involved by a growth from without and is not a primary tumor of the colon. The other pieces of gut that are adherent have no tumor involving the mucosa in any of them. This mass is adherent to the liver by a long pedicle. This pedicle proves to be the bile ducts.

Here is the common, hepatic and bile ducts opening into the duodenum. At this point the cystic duct is given off. As you see, the cystic duct is loose in the mass. In other words, the mass represents the gall bladder. An enormous tumor has apparently originated within the gall bladder and distended it.

In the liver there are numerous little nodules — the largest is about 1 cm. and the rest are smaller. These represent metastatic lesions in the liver. Aside from those there are no other metastatic lesions found. The histology of this is a rather papillary type of growth but it is not all papillary. It is definitely malignant. It reminds me of a case presented here by Dr. Beardsley a little over a year ago where the gall bladder was larger than this and it was also found to be in the pelvis. We considered it a benign papillary tumor of the gall bladder.

A very interesting finding was two nodules on the posterior wall of the stomach. The larger one measured 8 m.m. in diameter and the smaller one 6 m.m. in diameter. The histology shows them to be adenocarcinoma. The histology is different from that of the large tumor or the lesions in the liver so that we feel certain this represents a case of multiple malignancy and these are quite unrelated to the gall bladder tumor.

Q.: Was there any inflammatory process around that?

A.: No there was no inflammatory part to it.

Diagnosis: —

1. Primary carcinoma of the gall bladder (Papillary) with metastases to the liver.
2. Adenocarcinoma of the stomach (early).
3. Terminal pneumonia.

OBITUARY

THOMAS J. SMITH, M.D.

Dr. Thomas J. Smith, who for more than fifty years practiced his profession in the Blackstone Valley, died on November 19, 1940, at the home of his son, Russel C. Smith in Cranston, R. I., with whom he had lived since his retirement from active practice eight years ago.

Dr. Smith was born in Adams, Mass., April 18, 1858, the son of Thomas and Bridget Malone Smith. He studied medicine at the College of Physicians and Surgeons in Baltimore, and opened his office in Valley Falls in 1882. In 1922, he moved his office to Pawtucket.

In the early years of his practice he visited his patients on foot and later became well known throughout the Blackstone Valley as the "horseback doctor," especially in Cumberland and Lincoln.

To further his medical education, he made three trips to Europe and was three times appointed a trustee of the Wallum Lake Sanatorium. At one time he was on the staff of the Homeopathic Hospital.

In addition to his professional interests Dr. Smith was active in the political life of his town and served for three years as a member of the Cumberland School Committee; four years as a member of the Democratic State Central Committee and for many years he was chairman of the board of tax assessors in Cumberland.

Dr. Smith was encouraged in his desire to become a physician by the late Governor Lucius F. C. Garvin, who was his sponsor at the College of Physicians and Surgeons in Baltimore. Dr. Smith took a two year course in Baltimore and in the summer, while on vacation, made calls with Dr. Garvin. At the end of two years Dr. Smith took the examination given by three members of the Rhode Island Medical Society and passed. The practice of medicine was not regulated by the State at that time, and the examination by the representatives of the Rhode Island Medical Society not only conferred membership in the Society but was the equivalent of the present State license. Anyone who wished to enter the medical field could do so by hanging out his shingle. A few years later, however, the State regulated the practice of medicine and required all those who had not been practicing ten years or more to take examinations. Those who had been in practice ten years or more were licensed to continue in practice and were afterwards known as "time-limit men."

When Dr. Smith began practice in Valley Falls in 1884, office visits cost the patients fifty cents and house calls one dollar. As his practice increased he went from walking to horse-back and later he used a buggy. At the height of his practice he required three horses a day. In spite of the demands upon his time and strength Dr. Smith remained always a student and those who knew him were well aware of his interest in the progress of medicine. He was among the first in Rhode Island to use anti-toxin for diphtheria.

Dr. Smith did a really prodigious amount of work. His vigorous advocacy of those things in which he believed, and his unrelenting opposition to anything he disliked, made him a picturesque figure in his community. In his passing the profession of medicine and the people whom he served so well and so long have lost one who embodied the best of those qualities which have always characterized the true family physician.

Dr. Smith leaves two sons, Justin E. Smith of Pawtucket and Russel C. Smith of Providence; three daughters, Mrs. W. H. Robertson of New Milford, Conn., Mrs. Elma Marsan and Miss Brenda A. Smith of Providence, a sister, Mrs. H. A. Briggs of Pawtucket. Dr. Smith's wife, the late Mary (Welsh) Smith, died in 1934.

John E. Donley, M.D.
Charles F. Gormly, M.D.

THOMAS F. BLACK, M.D.

Dr. Thomas F. Black died April 2, 1940, after a long illness. He was born September 2, 1862, in Scotland, and came to this country at eight years of age. He attended the public schools and graduated from La Salle Academy and the College of Physicians and Surgeons in Baltimore in 1890. He served an internship at Bay View Asylum in Baltimore and started in practice in Providence in 1891.

He served for two years as a member of the City Common Council and during the World War was a member of the Local Draft Board Division No. 6. He was at one time connected on the staff of the Rhode Island Hospital and of St. Joseph's Hospital.

He is survived by his widow, a son and four daughters, three grandchildren, three sisters and one brother. He was beloved and respected by his patients and his friends, who found him loyal, genial and appreciative.

George S. Mathews, M.D.
Frank E. McEvoy, M.D.

RECENT BOOKS

Plague On Us. By Geddis Smith, pp. 365, Cloth $3.00. The Commonwealth Fund, New York, 1941.

The title of this book scarcely explains the real content, for the writer indicates in his Foreword that the work is intended to present to the layman facts and theories concerning communicable diseases, culled from the writings and statements of the scientists. But the whole subject of epidemiology is covered in such detail and in such clear and readable writing that the book may well be read in its entirety by every physician as well.

The general plan of the work includes an historical summary of the great epidemics of history, such as The Black Death, the Plague of 1665-6, Yellow Fever, Cholera and the Influenza epidemic of 1918-19. A chapter is devoted to the theories as to the causation, with detailed descriptions of the many and varied opinions. As the book continues, mention is made of the reaction of the individual to epidemic disease, and that of the crowd—the massing of disease. The writer goes into much detail as to the means of defense against epidemics, both as employed in the past, and as at the present time advised. In carrying on this thought, a number of concrete histories of outbreaks of disease are described at length, giving the facts as to the beginning, progress, and the search for and the final discovery of the source of each. This chapter is interesting, as showing the application of the theories of epidemiology to its practise. There are one or two surprising statements, which stimulate thought. In speaking of inoculation against typhoid fever, the words "a sorry practice" are used, at once arousing the

attention. On reading the context it becomes apparent that the thought of the author was that sanitation should be so good that there should be no danger of typhoid, and therefore, ideally, no need for inoculation. Another reference is to the inadequacy of the mask of gauze, covering the mouth and nose, to prevent contagion. Probably most workers have for some time believed that the mask was of a good deal of value. Most refreshing is the up-to-dateness of the book; for example, reference is made to chemotherapy, the five to seven day method of treating syphilis, and Gramicidin which is as yet only in the experimental stage, but which the writer believes may have great potentialities.

All in all this is a work which is worthy of a place upon the library shelves not only of the layman but also of the physician, whether he be an epidemiologist or not.

HERBERT G. PARTRIDGE, M.D.

MEDICAL EDUCATION IN THE UNITED STATES, 1934-1939, Prepared for the Council on Medical Education and Hospitals of the American Medical Association, pp. 259, Boards, American Medical Association, 1940.

This report prepared for the Council on Medical Education and Hospitals of the American Medical Association is based upon questionnaires completed by medical school officials and upon personal investigations of each school made by representatives of the Council. The mass of data thus obtained covers a wide range including the enumeration of courses, methods of instruction and technical studies of administration, organization and utilization of the medical schools' facilities. Detailed consideration is given to a study of the educational program and the use of clinical facilities. There is hardly an aspect of instruction or of student administration, including the ever important financial support, which is not covered by this report. Particular problems such as clinical clerkships in various specialties have been studied. The teaching in each division, such as pediatrics, medicine et cetera, is reviewed and summarized in comment by the Council based largely upon its observations of the works of these departments in the institutions which seem to be obtaining the most satisfactory results.

CLIFTON B. LEECH, M.D.

THE 1940 YEAR BOOK OF PUBLIC HEALTH. Edited by J. C. Geiger, M.D., pp. 560, with 12 illustrations, Cloth, $3.00. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, 1940.

All medical men are familiar with the Practical Medicine Series of Year Books. It is of interest, therefore, to note that this year for the first time a volume is being issued on public health.

Similar in format to the other volumes, an excellent digest is presented of the literature of the past year.

The book is recommended for those who are interested or are in public health work.

FRANCIS H. CHAFEE, M.D.

GRADUATE MEDICAL EDUCATION IN THE UNITED STATES. Continuation Study for Practicing Physicians. Council on Medical Education and Hospitals of the American Medical Association. pp. 243, The American Medical Association, Chicago, 1940.

This report constitutes a supplement to this report on Medical Education and actually represents a catalog of the facilities for graduate instruction in the various states. Brief comments are made on the development, importance, and operation of graduate study. The number of special examining boards and boards for certification in certain specialties are evidences of the need for extended medical education. This report covers every aspect of the field.

CLIFTON B. LEECH, M.D.

OFFICE UROLOGY: By P. S. Pelouze, M.D., Assistant Professor of Urology, University of Pennsylvania, Consulting Urologist, Delaware County Hospital, Special Consultant to United States Public Health Service; Member of Board of Directors, American Social Hygiene Association and American Neisserian Medical Society. 766 pages with 443 illustrations, 19 in color. Philadelphia and London: W. B. Saunders Company, 1940. Cloth, $10.00.

Office Urology by P. S. Pelouze is the title of a well written monograph on the practice of urology. Written in Dr. Pelouze's intimate style it gives many practical suggestions as to the conduct of a busy office practice.

The section on bacteriology is particularly enlightening. He describes the newer cultural methods. The discussion of gonorrhoea, upon which Dr. Pelouze is an admitted authority, is well written, convincing and complete. The uncommon and troublesome complications of gonorrhoea are described at length and the treatment is suggested. The newer sulfonamide drug entities are discussed and evaluated. The more recent ones are but sketchily covered. There is a voluminous chapter on cystoscopy with numerous color plates, sketches and diagrams. The mechanism of the commoner uropathies are described by diagrams and sketches and the rarer lesions are fully covered.

The book throughout is profusely illustrated and the subject matter is presented in a clear, concise and readable fashion. It is a book that should be in the library of the general practitioner as well as that of the specialist.

HOWARD K. TURNER, M.D.

THE COMPLEAT PEDIATRICIAN. By Wilburt C. Davison, M.A., D.Sc., M.D. Third Edition, pp. 256 and index, Cloth, $3.75, Duke University Press, Durham, N. C., 1940.

An encyclopedia of diagnosis and treatment of the diseases of children. For the use of medical students, internes, general practitioners, and pediatrists. The practical value of the book is attested by the rapidity with which the previous editions have been exhausted. In this edition 3,700 new references have been added to the 7,854 references of the second edition, making a total of over 11,000. The in-

corporated comments of the author, who is Professor of Pediatrics at Duke University School of Medicine, add greatly to the value and interest of the work.

Synopsis of Clinical Laboratory Methods. By W. E. Bray, B.A., M.D. Second Edition, pp. 408 with 51 text illustrations and 17 color plates, Cloth, $4.50. The C. V. Mosby Company, St. Louis, 1939.

Although there are many textbooks in the market of clinical laboratory methods, it is the feeling of the reviewer that there is always room for one more inasmuch as none is perfect.

In this work the author attempts to have brief descriptions of the proccdures, with unimportant details omitted. As a result, the book has a businesslike air about it and should prove useful not only for one active in laboratory work but also as a reference book for one who only occasionally enters the laboratory.

The illustrations are on the whole excellent with the exception of those depicting the various types of blood cells. It is admitted that good reproduction of blood cells is difficult to begin with, but poor ones might just as well be omitted.

Francis H. Chafee, M.D.

The Rockefeller Foundation, Annual Report, 1939, pp. 507, 49 West 49th Street, New York, 1940.

Once again the annual report well illustrates the success of the Rockefeller Foundation in achieving the purpose stated in its charter "to promote the well-being of mankind throughout the world." In spite of the disorganized international situation the foundation has carried on its work in many countries in the five divisions of the foundation, namely, International Health, Medical Sciences, Natural Sciences, Social Sciences, and the Humanities. Detailed reviews of the activities of these departments are incorporated in the report. It is evident from these that the foundation is very willing to sponsor new projects and to underwrite novel schemes which give promise of fostering in some way man's well-being and culture. It seems that the emphasis at present is more particularly upon the mechanics of intellectual and social improvement rather than upon the fostering of individual accomplishments in scholarship. Local interest is directed at the allotment to Brown University of aid for the continuance of research on "unique stocks of rabbits representing genetic strains built up over some 35 years of research" carried on previously at Harvard University. A grant has also been made to Brown University for the establishment of a microfilm photographic laboratory which will constitute an important adjunct to the new international journal, Mathematical Reviews, which has its headquarters at Brown. In respect to world politics there is interest in grants to the Canadian Institute of International Affairs which is an unofficial and non partisan organization for the study of British Commonwealth and international affairs and their relation to Canada.

Clifton B. Leech, M.D.

VENEREAL DISEASE INFORMATION

Unity of purpose — the control of venereal disease — characterizes two recent statements by the medical profession and by Federal and State agencies.

The first statement is the "Resolution on the Venereal Disease Program" adopted by the House of Delegates of the American Medical Association in June 1940. The second is "An Agreement by the War and Navy Departments, the Federal Security Agency, and State Health Departments on Measures for the Control of the Venereal Diseases in Areas Where Armed Forces or National Defense Employees are Concentrated."

"During the World War, venereal disease in the Army caused the loss of almost 7,000,000 days — equal to a full year's absence from duty for 19,000 men", Surgeon General Thomas Parran points out. "Infections among military personnel originate in the civilian communities. Recent experience indicates that the venereal disease rate in a given military command reflects the efficiency of the venereal disease control program in adjacent communities. The same is true for industrial defense concentrations.

"Effectively carried out", Dr. Parran emphasizes, "the 8-point cooperative program will contribute substantially to the physical fitness of men in the armed and industrial defense forces, and should be of far-reaching importance to the future control of venereal disease. But this must be a cooperative program between health officers, military authorities, police agencies, citizens—and private physicians.

"Recent statements and actions of the American Medical Association demonstrate that, as always, the physicians of the United States will rise to the obligations asked of them."

Increasing demands on private physicians occasioned by the national defense program, accents the need for reliable, current and usable information regarding venereal disease.

Venereal Disease Information presents a monthly digest of the important papers on diagnosis, treatment, pathology, laboratory research, and public health from the entire world. In addition, it publishes important special papers and reports by leading scientists. It is designed to keep both the specialist and the general practitioner informed of developments in clinical management and public health control of syphilis, gonorrhea, and the venereal diseases.

This medical journal of venereal disease has been highly recommended by leaders in all fields of public health. In a rapidly developing and changing field of medical science, the physician interested in venereal disease control from the standpoint of differential diagnosis and treatment will find *V. D. I.* an important aid.

Venereal Disease Information is published monthly by the U. S. Public Health Service. Today it ranks as the Government's "best seller", with the highest paid circulation of any Federal publication. All orders should be directed to the Superintendent of Documents, Government Printing Office, Washington, D. C. Subscription fee, 50c per year, in check or money order, *not stamps.*

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

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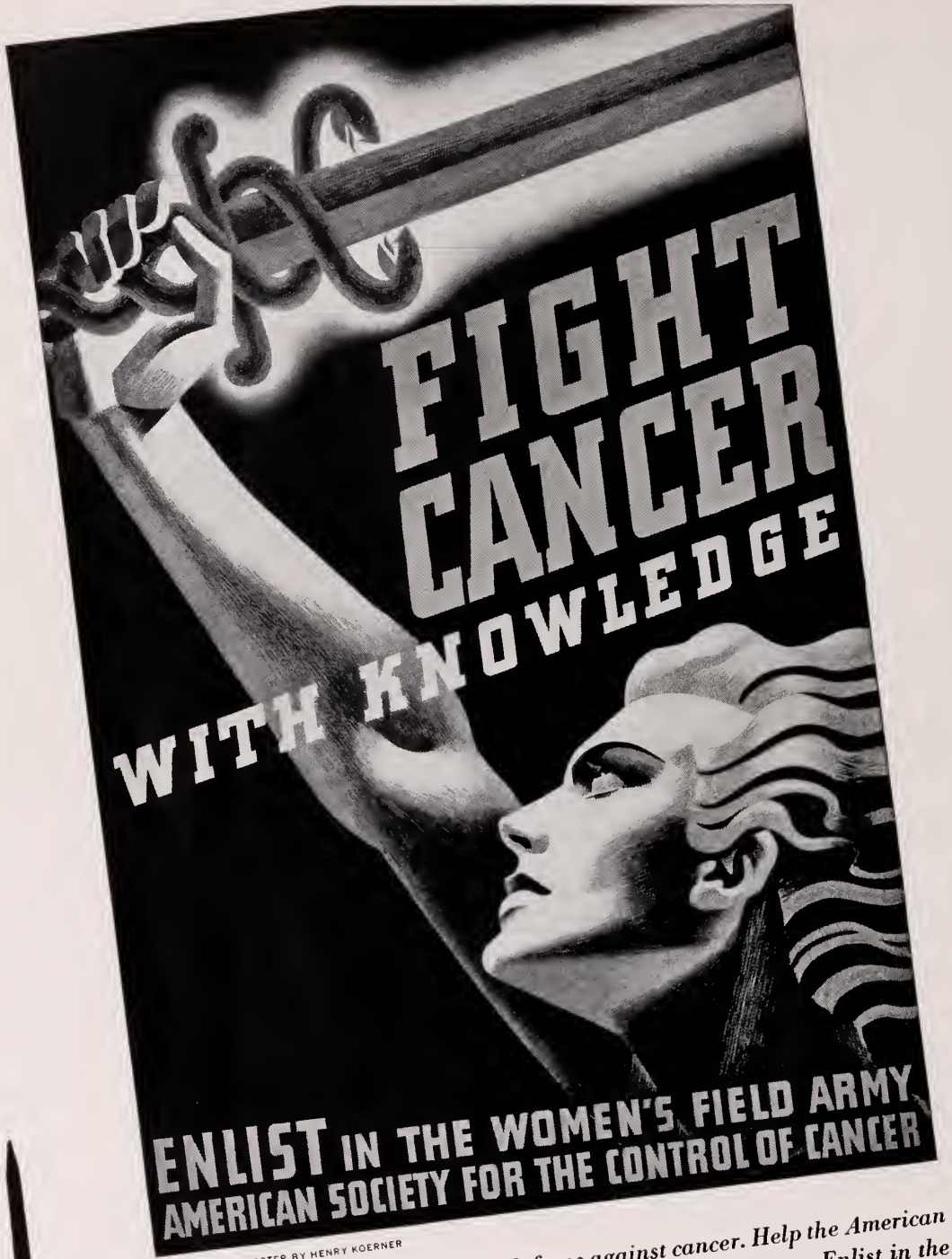

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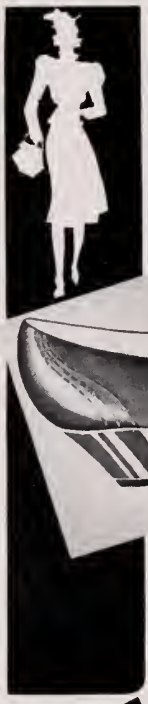

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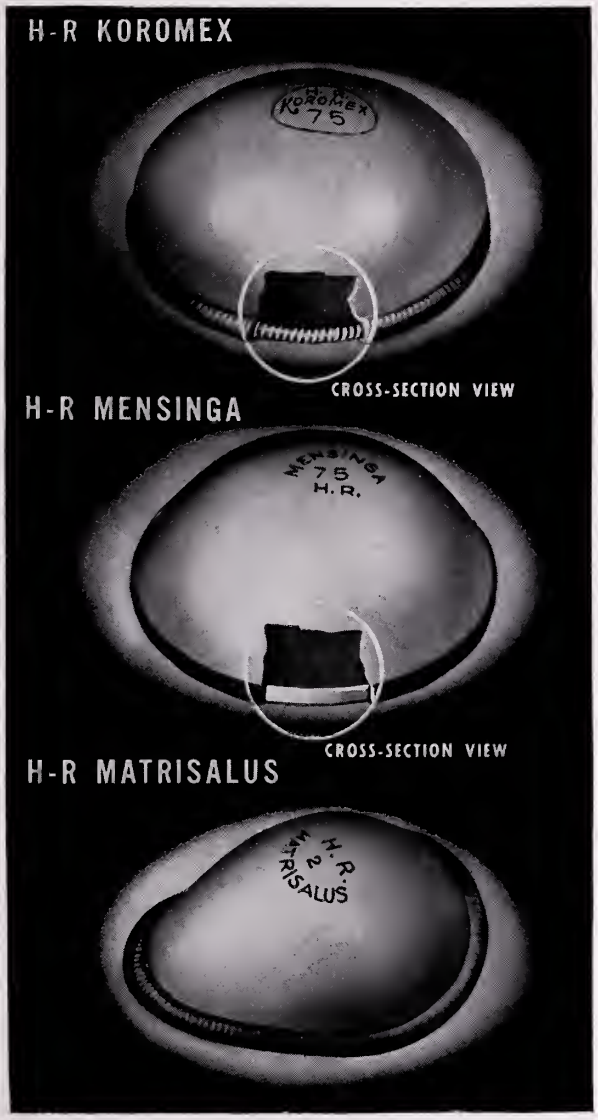

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Volume XXIV MAY, 1941 Number 5

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Annual Meeting, Newport, R. I., May 28-29, 1941

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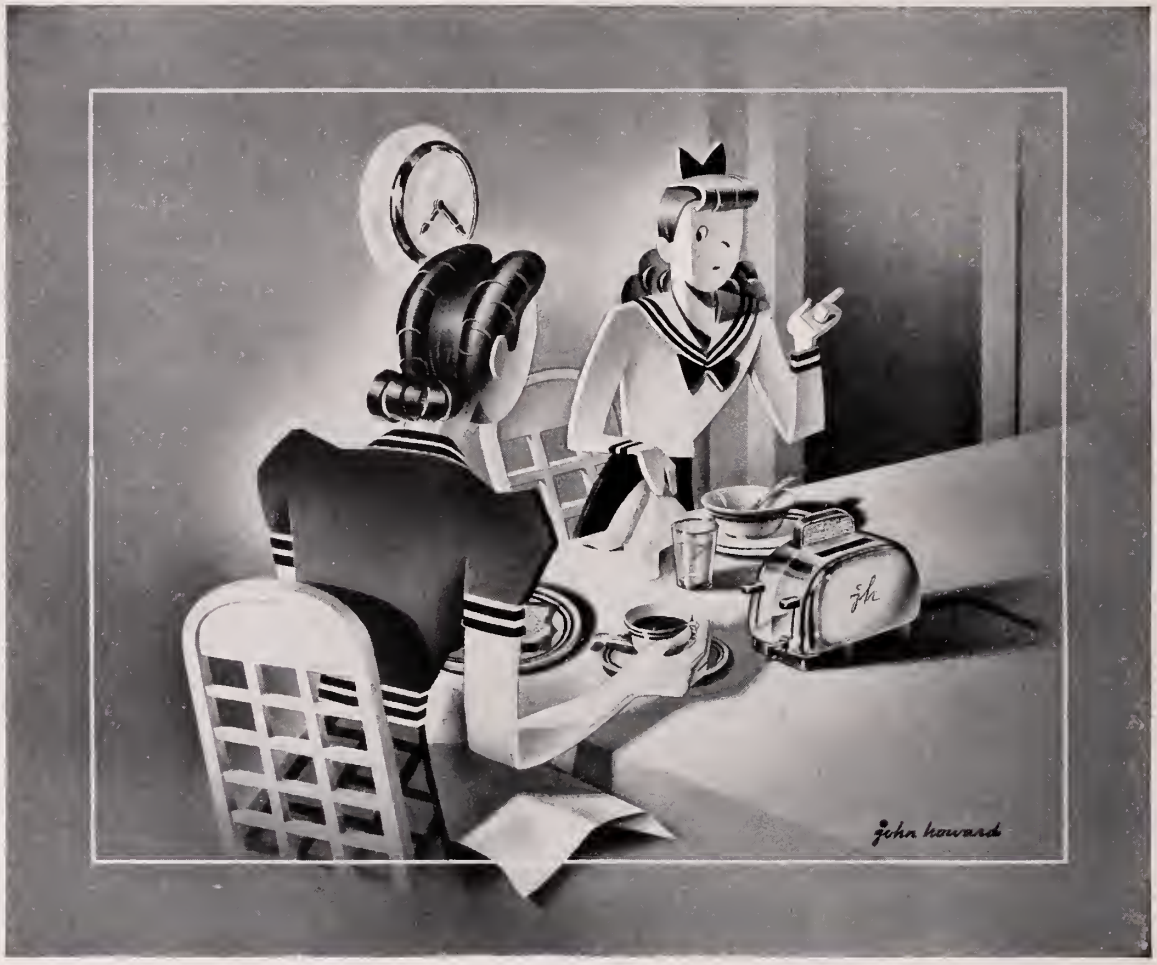

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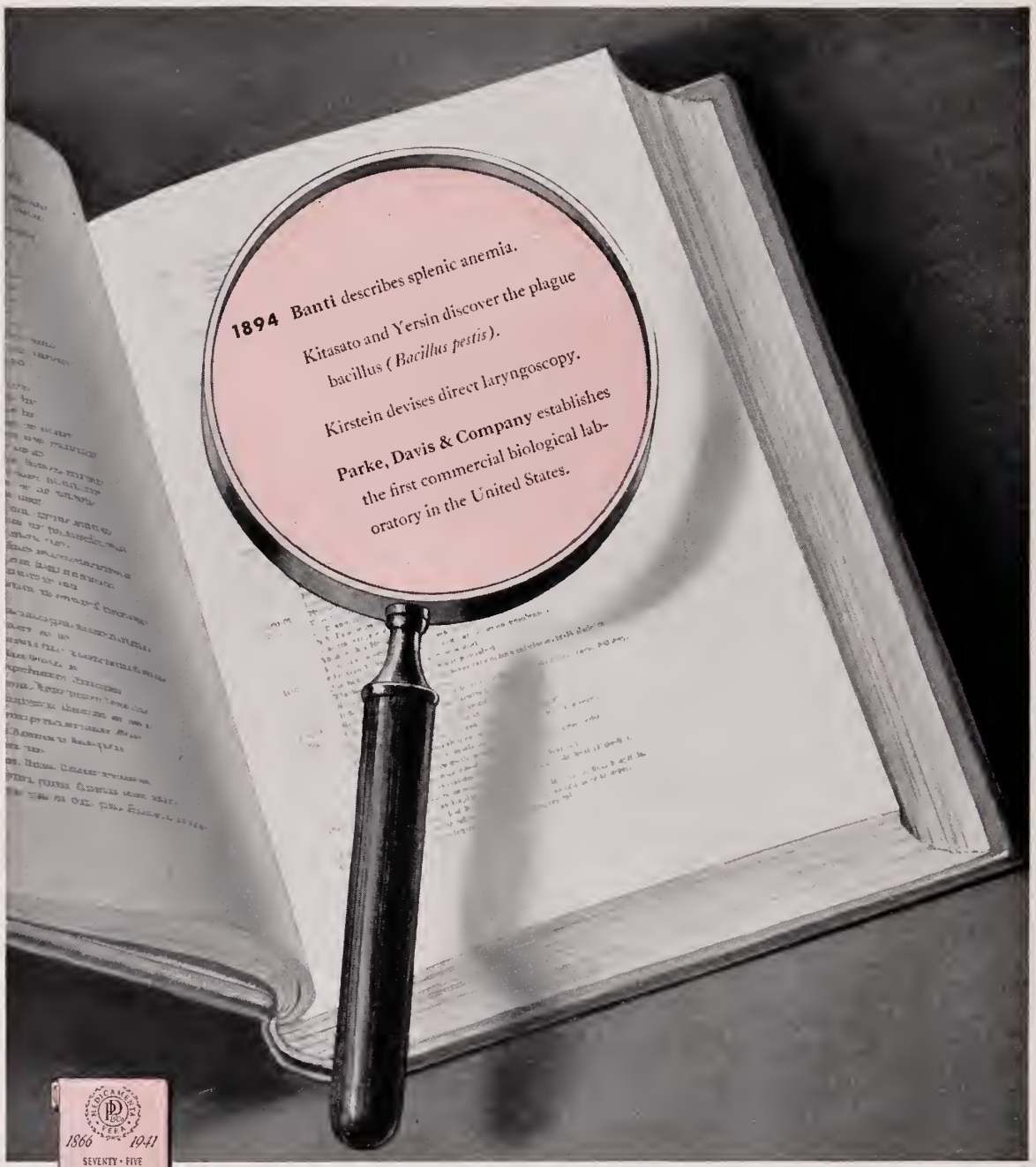
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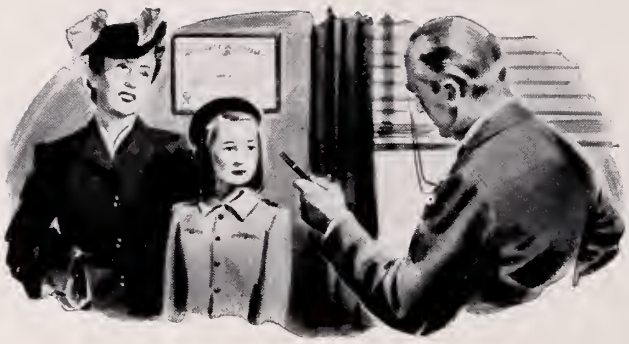

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1939. Accepted Foods and Their Nutritional Significance, Council on Foods of the American Medical Association. Chicago.

1939. Food and Life; Yearbook of Agriculture. U. S. Dept. of Agriculture. U. S. Government Printing Office. Washington, D. C.

1939. Canned Food Reference Manual, American Can Company, New York.

1938. Nutrition Abstracts and Reviews 8, 281.

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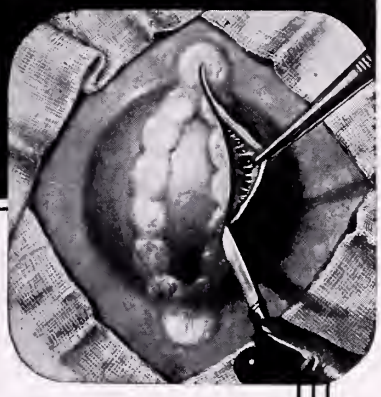

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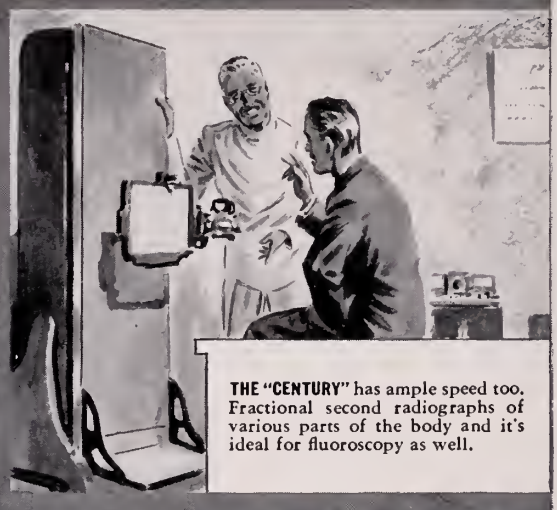

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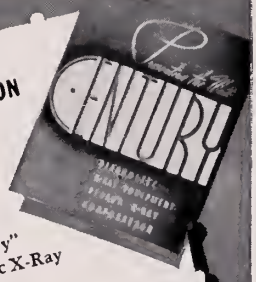

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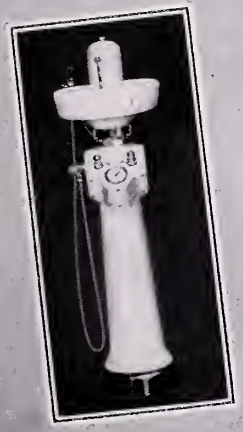

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VARICOSE VEINS AND RELATED CONDITIONS

I. THE MODERN TREATMENT OF VARICOSE VEINS

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The three basic methods of relieving varicose veins, namely (1) sclerosis, (2) compression, and (3) ligation have been known for a long period. Obliteration in situ has been traced to Hippocrates[1] ("the varix itself is to be punctured in many places") while ligation was performed by Celsus as early as the first century. Excision or stripping advocated a number of years ago were almost completely replaced by simple injection and more recently by ligation and injection. Proper treatment requires an understanding of the anatomy and pathologic physiology.

Anatomy and Physiology.

There are three groups of veins in the lower extremity, (1) the superficial, (2) the deep and (3) the communicating veins. The superficial group lies outside the deep fascia. The deep veins accompany arteries or ramify among the groups of muscles. The superficial veins are connected with the deep by a set of communicating veins which perforate the muscular aponeurosis.

The superficial and deep veins are furnished with valves so arranged that blood will flow past them only in one direction, namely toward the heart. The communicating veins of the calves have valves so disposed that blood can flow through them only from the superficial system toward the deep. The venous circulation in a dependent extremity is motivated mainly by muscular activity which propels the blood past these valves.

A varicosity is defined as an abnormally dilated superficial vein characterized by loss of function of its valves. The superficial veins of the leg belong generally to two great systems, (1) the long or internal saphenous and (2) the short or external saphenous. The long saphenous vein (Fig. I), after its origin on the medial aspect of the foot, passes up the medial aspect of the leg and thigh to the fossa ovalis, through which it enters the femoral vein at the sapheno-femoral junction. Just before emptying into the femoral vein it is joined by several important tributaries (1. the external pudendal, 2. the superficial circumflex iliac, and 3. the superficial epigastric and sometimes others). The importance of these tributaries will be discussed with the technique of high ligation.

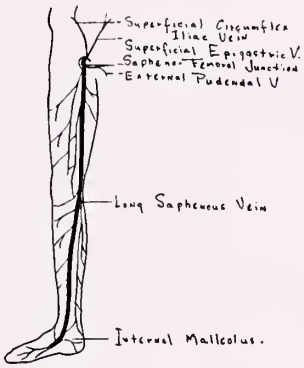

Fig. I. The Long Saphenous System

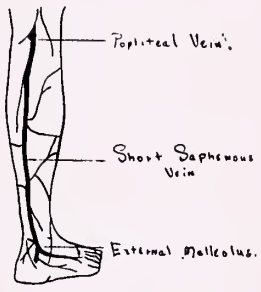

Fig. II. The Short Saphenous System

The short saphenous vein (Fig. II), after its origin on the lateral aspect of the foot, gradually assumes a more median position and ascends the posterior surface of the leg, almost in the mid-line until it perforates the popliteal fascia to communicate with the deep system. Varicosities of the short saphenous vein are comparatively unusual.

An important etiological factor seems to be an hereditary predisposition. Careful family histories will reveal an appreciable familial incidence. A number of other factors, of course, may contribute. The superficial veins have very little support in contrast to the deep veins which are enclosed by muscle and fascia. In the female pregnancy is commonly observed to be the precipitating cause. Re-

From the Peripheral Vascular Clinic, Beth Israel Hospital, Boston, Mass. Read before the Providence Medical Association, Jan. 6, 1941.

cent work on venous pressures[2] has emphasized the importance of the erect posture as a predisposing factor. Furthermore, varicose veins result from preceding thrombophlebitis which may damage or destroy valves.

Clinical.

Before treatment is begun every patient should be studied carefully to eliminate other possible pathologic states, e.g., syphilis, diabetes and peripheral arterial disease. It is well to remember, too, that peripheral edema even when accompanied by large varicose veins may be of cardiac or nutritional origin. Ulcers may be trophic or neurogenic in origin, the result of spinal cord disease or spina bifida. Recently chronic ulcers of the leg associated with congenital hemolytic jaundice have been described;[3] these ulcers are usually located near the medial malleolus (a location typical of varicose ulcers) and are permanently cured only when the underlying blood dyscrasia is relieved by splenectomy.

After these preliminary studies the exact anatomic involvement is investigated in order to determine the course of treatment. The patient is examined in the standing position. Visual inspection is of some value in estimating the extent of involvement and frequently will disclose the location of the incompetence. Palpation of the extremity, however, is much more accurate, and will frequently disclose varices previously unsuspected.

Attention should then be directed to the following:

1. Whether the valvular incompetency occurs in the long saphenous, the short saphenous or the communicating veins, and

2. Whether the deep veins are patent.

Several tests have been devised which facilitate this study.

The Trendelenburg test[4] and its modifications provide the answer to the first question. To grasp the significance of these tests it is convenient to visualize the communications between the systems as shown in Fig. III. The long saphenous veins and the deep veins communicate proximally at the sapheno-femoral junction and distally by way of the communicating veins. The short saphenous vein communicates with the deep veins at the popliteal space. The arrows show the normal direction of blood flow.

The patient is allowed to lie down and the leg is then elevated until the veins have been emptied. A tourniquet is placed high on the thigh. The patient is then asked to stand with the tourniquet held in place. If the veins do not fill within a half minute the deep and short saphenous systems may be disregarded as contributing factors. The tourniquet is then released and the vein is seen or felt to fill rapidly from above downward. This demonstrates that the major source of leakage is proximal to the tourniquet and that the valves of the long saphenous system are incompetent.

If, however, there is filling before the tourniquet is removed the source of leakage must be distal. In this case, either the short saphenous system or the communicating veins have incompetent valves.

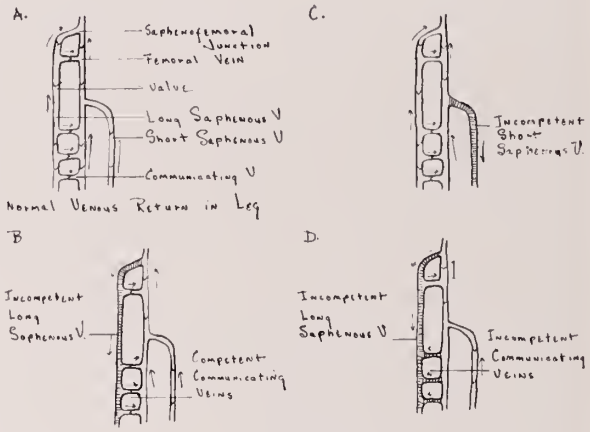

Fig. III.

To distinguish between these two latter groups the tourniquet is reapplied just below the knee. If now the veins do not fill with the patient standing, they are of short saphenous origin. If filling occurs there are incompetent communicating veins in the lower leg. It is desirable in some cases to determine the level of incompetent communicating veins more precisely by performing the tourniquet test at various levels.

Although most observers agree that a permanent occlusion of the deep veins following phlebitis is quite unusual it is well if in doubt to establish their patency before obliterating the superficial ones. The superficial veins are emptied by elevation, and then an elastic bandage is applied from toes to knee. If the patient while walking about experiences no discomfort or cramps with the veins compressed the deep veins may be considered as patent.

On the basis of these tests Faxon[5] has classified all cases in six groups, as follows:

1. Cases in which there is a demonstrable incompetent main internal saphenous trunk above the knee.
2. Cases in which there is incompetence of the valves of the deep perforating branches without ulceration or brawny edema of the lower leg.
3. Cases in which there is incompetence in the valves of the deep perforating branches with ulceration or brawny edema of the lower leg.
4. Cases in which there is a demonstrable short saphenous trunk originating in the popliteal space.
5. Cases in which the varicosities have followed a deep phlebitis and are shown to be compensatory in nature.
6. Cases in which dilated veins and flares are found unassociated with incompetence of the valves in either the main trunk or the perforating branches.

This classification forms a rational basis for treatment.

Group I. (*Incompetent Long Saphenous Vein with Competent Communicating Veins.*) In 1933 Faxon[6] reviewed 314 such cases treated by injection alone. 63% of the total number showed recurrence in an average period of 1.4 years, and 25% showed new varicosities. In a total of 102 cases similarly treated Martenssen[7] found 55 relapses within a maximum period of one and a half years.

In contrast to these results Faxon and Barrow[8] reported follow-up data on 365 high saphenous vein ligations in 228 patients. They found satisfactory or perfect results after at least one and a half years in 80% of the operations. Sears and Cohen[9] report almost identical results from the Beth Israel Hospital, Boston, in 135 operations after a follow-up of 2 to 6 years. In both groups causes of failure were usually obvious and should be largely eliminated in the future by a more meticulous evaluation of individual patients.

The results of these studies point to high ligation of the long saphenous vein as the procedure of choice of this group.

Technique of High Ligation with Retrograde Injection. (Fig. IV.) Under local anaesthesia a 5 cm. incision (longer if necessary) is made 0.5 cm. below the crease of the groin centered just medially to the pulsation of the femoral artery. The fat and fascia are divided so as to expose the trunk of the long saphenous vein as it terminates at the saphenofemoral junction. Incisions at a lower level, as often recommended, render exposure of the sapheno-femoral junction appreciably more difficult. All of the tributaries entering the long saphenous vein are cut and ligated. It is important to recognize all of these because they are a potent source of recurrence. There are usually at least three in number, as previously noted. The main trunk is then divided close to the femoral vein and the distal segment is injected retrogradely with 10 to 30 c.c. of Varisol. This is a proprietary mixture of invert sugar and sodium chloride which has been used successfully by both of the groups mentioned. A Faxon cannula as illustrated may be conveniently used for this purpose. Pratt[10] has recently recommended inserting a small catheter for the retrograde injection to insure a more uniform distribution of the sclerosing agent. Following this 1 cm. of the vein is excised and both stumps are ligated. Post-operative injections with sodium morrhurate or quinine and urethane are usually necessary.

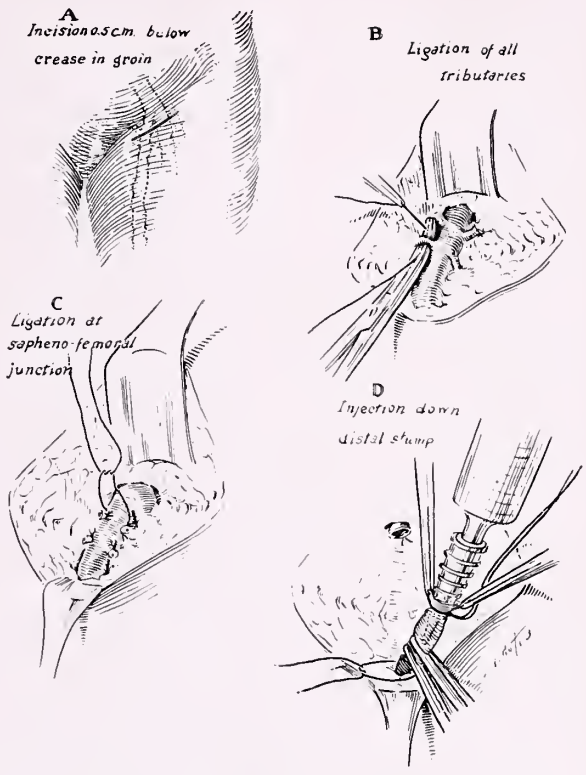

Fig. IV. Technique of High Saphenous Vein Ligation and Retrograde Injection

Group II. (*Incompetent Communicating Veins without Ulceration or Brawny Edema.*) Here likewise a high saphenous vein ligation is indicated. Treatment of the communicating veins may be postponed. But the patients should be followed carefully, and in the event of the appearance of trophic changes or of recurrent varicosities, the communicating veins should then be ligated.

Group III. (*Incompetence of the Communicating Veins Accompanied by Brawny Edema or Ulceration.*) For adequate treatment in this group ligation of the communicating veins as well as high saphenous vein ligation are necessary. Existing ulcerations must be healed before dealing with the communicating veins. The treatment of ulcers will be considered separately. Linton[11] has been able, on the basis of anatomical studies, to divide the communicating veins into three clinical groups: the medial, the anterior and the lateral. The medial group, the most commonly involved, is affected in 80 to 90 per cent of cases. The others are involved in 5 and 15 per cent of cases respectively.

Technique of Ligation of the Communicating Veins. When the medial group of veins is involved a broad curved flap bearing the skin, fat and fascia is reflected. The communicating veins are thus cut across and tied, and the flap is resutured in place. The skin flap must be handled with meticulous care to prevent necrosis. When the fascia shows considerable scarring it is desirable to excise the involved portion of the fascia before closing the skin.

When several groups of communicating veins require treatment it is preferable, as suggested by Linton, to reflect the skin and fascia through straight incisions. These are placed so as to correspond to the involved group and extend from the level of the malleoli to the upper third of the leg.

Group IV. (*Incompetent Short Saphenous Trunk.*) Marked dilatations of the short saphenous system are best treated by ligation and injection.

Group V. (*Varicosities Following Deep Phlebitis which are Compensatory in Nature.*) In the rare event that persistent occlusion of the deep veins is demonstrated by the tests no treatment of the varicosities is indicated.

Group VI. (*Dilated Veins and Flares without Incompetence of the Main Trunks or the Communicating Veins.*) Varicosities of limited extent or isolated dilated veins may be treated by injection alone. In the case of flares a feeder vein may sometimes be injected. Generally, however, treatment of flares is unsatisfactory. They are, however, rarely the cause of complications and are usually only of cosmetic interest.

Technique of Injection. The method whether or not accompanied by operation is the same. Many modifications have been described in the literature, but there is not much evidence that the exact method of injection matters greatly. At the Beth Israel and Massachusetts General Hospitals the injection is performed usually with the patient standing and without tourniquets or occluders. About 2 c.c. of sodium morrhuate or quinine and urethane are injected with a fine hypodermic needle, following which a pressure dressing is applied. The injections are begun at a distal point and progress proximally. They are made at intervals of one week.

Summary.

1. Proper selection of treatment for varicose veins depends upon a careful evaluation of the individual case.

2. Tests have been described to determine the competency of the long saphenous, short saphenous and communicating veins, and patency of the deep veins.

3. In properly selected cases ligation plus injection has proved superior to injection alone.

4. The techniques have been described for high saphenous vein ligation, injection, and ligation of the communicating veins.

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II. ULCERS, PHLEBITIS, AND THE THROMBOSES.

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For the purpose of this discussion, ulcers will be divided into two general groups; (1) Varicose and (2) Post-phlebitic.

Varicose Ulcers.

These ulcers are definitely related to varicose veins and are usually found in the region of the inner ankle, frequently overriding the lower end of a column of regurgitant blood. Trauma initiates most of these ulcers; the alleged role of fungi in etiology has not been clearly established.

The most important factor for *cure* is the obliteration of the offending varicosities by compression, injection, or ligation and injection. But *healing* of the ulcer is the patient's first concern.

For economic reasons, in many of our patients, it is necessary to attempt healing by ambulatory methods. We rely on some form of compression. When the ulcer base is foul and dirty, the patient is taught to apply warm wet compresses (salt or boric solution) under a moisture-retaining wrapping of oil silk, all covered by a woven bandage from toes to knee.

When the ulcer becomes cleaner, a simpler routine is used. Some patients are taught to do a daily dressing as follows: Wash the ulcer with soap or peroxide solution, apply a bland ointment on gauze, cover the latter with a large rubber sponge, then apply the woven bandage from toes to knee.

More popular than the above are the two proprietary types of bandage which compress the foot and leg, including the ulcer, and are left in place for one to three weeks. The first consists of a woven bandage coated on one side with adhesive, (Elastoplast or Ace adhesive). This is particularly useful when there is a tendency to edema, but should not be used when there is a dermatitis or sensitivity to adhesive. The second type is a gauze bandage impregnated with a modified Unna's zinc oxide-gelatin mixture (Gelocast), thus encasing the lower extremity in a bland rubbery cast. Our preference is for the latter method, even when there is extensive dermatitis, because it is non-irritating.

Heaped-up granulations, when present despite compression, are gently cut or curretted from the healing border. Silver nitrate is avoided because it destroys epithelial cells and thus delays healing.

Patients with large or badly infected ulcers are advised to go to bed, for the surest and quickest way to heal any ulcer is by bed rest, elevation and warm moist compresses.

If the patient has been hospitalized, the saphenous vein is ligated and divided on the day before discharge. Skin grafting is advantageous when the ulcer is large.

Occasionally we have encountered a painful ulcer with an undermined edge from which mixed aerobes and anaerobes have been cultured. The use of a 40% zinc peroxide suspension has resulted in rapid healing and cessation of pain.

Rarely it has been necessary to crush the saphenous nerve because of a very painful ulcer in the region of the internal malleolus. The nerve is exposed either in Hunter's canal or just below the knee.

Other therapeutic adjuncts, occasionally used, are cod liver oil ointment, obtundia cream and gentian violet solution (2% aqueous).

Post-Phlebitic Ulcers.

These occur as a late sequel of ilio-femoral thrombophlebitis ("Milk leg"). Usually there is residual edema of the lower extremity plus induration and pigmentation of the antero-medial portion of the lower leg. The ulceration appears from six months to ten years after the original "Milk leg" and is usually preceded by a non-suppurative local inflammation. There is involvement of skin, fat and fascia; the recurrent attacks of cellulitis leave much cicatrization which interferes with local nourishment and thus with healing.

These indurations and ulcers frequently lie over incompetent communicating veins and may be accompanied by dilated superficial veins. The latter are usually compensatory in nature, appearing subsequent to the original deep thrombosis.

Case History: M. M. is a thirty-two year old woman who suffered a "Milk leg" eight years ago, after a normal delivery. Her extensive white swelling gradually lessened but never completely disappeared. Four years ago a small ulcer appeared

just above the internal malleolus (Fig. 1) and healed rapidly when she was hospitalized. This area repeatedly breaks down into a chronic painful ulcer when she is ambulatory. There are no palpable nor visible varicosities.

Figure 1

Case History: R. S. is a thirty-six year old man. An appendectomy ten years ago was complicated by a "Milk leg" for which he was kept in bed seven weeks. Since then, his leg has always been moderately swollen. Six months ago a painful indurated area above the internal malleolus broke down and now he has a sluggish ulcer almost identical with that in figure 1. Two other findings are of interest. There is an extensive fungus infection of his groins and he has large varicosities on his leg, thigh, and abdominal wall. These are, of course, compensatory veins.

All ulcers require great patience and should be treated conservatively. When the futility of such treatment is finally realized in a given case, surgery is indicated. Block excision of the indurated area, down to and including the fascia, plus skin grafting is radical but quite certain. (Fig. 2.) More recently we have used a modified "flap" operation (Fig. 3) which permits the division of communicating veins and the excision of most of the related fascia. The removal of this fascia, much of which is thickened as a result of earlier cellulitis, permits the improvement of the blood supply of the remaining flap of skin and fat. Through the upper end of the incision the saphenous vein may be divided, if indicated, and the saphenous nerve may be crushed.

Phlebitis.

Four types will be discussed briefly.

1. *Femoro-iliac thrombophlebitis* (Phlegmasia alba dolens or "Milk leg"). This is usually seen post-partum or postoperative, causes prolonged incapacitation, may be followed by chronic swelling, induration, and ulcers and *only rarely precedes pulmonary embolism.* In addition to the venous and lymphatic obstruction there may be evidence of sympathetic hyperactivity (coolness and sweating).

During the acute stage the extremity is kept elevated but is not immobilized. We have discarded the ice bag entirely and now use either massive hot moist compresses or a cradle with radiant heat to the lower abdomen and thighs or an electric pad to the abdomen. When the temperature is normal and the edema is minimal, a woven bandage is applied and the patient gradually becomes ambulatory. Subsequently the swelling, depending on its degree, may necessitate an elastic stocking, a latex bandage or a canvas boot.

Two recent innovations in therapy should be mentioned:

a. *Intravenous heparin* has been shown to prevent thrombosis but has the disadvantage of expense and difficulty of administration.

b. *Repeated novocaine block of the lumbar sympathetic ganglia.* It is claimed that the temporary paralysis of the sympathetic outflow produces relief of symptoms and prevents late postphlebitic manifestations. It is a procedure which requires experience. We believe that heat may adequately overcome the vasospasm which is part of the syndrome.

2. *Superficial Thrombophlebitis in Non-Varicose Veins.*

This is a bizarre condition recurring without any known cause. It may follow trauma or exposure to cold weather or it may be related to focal infection. About twenty-five per cent of patients with Buerger's disease have migrating phlebitis.

When there is marked discomfort or fever we advise bed rest with elevation and heat. If the process extends above the knee, division of the saphenous vein at the groin is performed. Otherwise, these patients are encouraged to be ambulatory.

Figure 2

Figure 3

3. *Thrombophlebitis in Varicose Veins.*

This is a common complication of varicose veins. Here again the patient is put to bed only if the thrombophlebitis is disabling or is associated with fever; heat and elevation are then used. Ligation at the saphenofemoral junction prevents embolism and seems to hasten resolution.

4. *Peripheral Deep Thrombosis.*

Thus far we have discussed three types of phlebitis in which there is likely to be an inflammatory reaction in the vein wall, some clinical reaction, an adherent thrombus and thus less chance of embolism.

The following syndrome is more treacherous. Clotting apparently begins in the veins among the calf muscles and may progress, sometimes rapidly, to the upper femoral region, or even higher. It is the loosely attached thrombus or its free-floating propagating tail which breaks off and journeys to the heart and lungs.

We believe that this type of *bland thrombosis* occurs more frequently than has been recognized and that it is the great source of pulmonary embolism.

The onset is usually mild and insidious with little or no change in the chart. Most of the patients have felt pain in the leg, usually in the calf, occasionally in the heel or popliteal region. The pain may be mild or severe. One patient *after an infarction* admitted mild pain of four days duration. In twenty-five per cent of our cases the diagnosis was made after the infarction. On physical examination, there is tenderness in the calf and forced dorsiflexion of the foot causes discomfort in the calf or behind the knee (Homans' Sign).

Because we have witnessed several fatal embolisms during a waiting period of indecision, we now feel justified in dividing the femoral vein, distal to the profunda, whenever the diagnosis of deep calf thrombosis can be made. The patient becomes ambulatory in a few days if there are no general contraindications. Some type of support is then advisable because of the tendency to slight swelling, due probably to the deep thrombosis rather than the ligation.

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BAKELITE BRAINS

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AND
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We have prepared as permanent dry specimens 25 bakelite brains. By modifying Rosett's original method[1] we have succeeded in obtaining specimens in which details of brain structure stand out more sharply. Contrast between gray and white matter is distinct; blood and blood vessels are purple black; necrotic tissue is more yellow than normal tissue. Structural details of brain tumors are clear. We have preserved brain dissections as well as flat slices.

Bakelite brains are excellent for teaching. They make the best photographs. They are pleasing to look at and are often mistaken for artificial brain models. Students like to study them, and can handle them for hours without getting eyes, nose and hands irritated by formalin.

The Bakelite Process.

The method consists in infiltration of brain tissue with a solution of synthetic phenol resinoids. Heat polymerizes the resinoids and converts the specimens to firm, dry, hard pieces of bakelite.

Infiltration: Whole brains, dissections, or slices may be used. Slices should be at least ¾ of an inch thick. The specimens are fixed in 4% formaldehyde for 14 days and then transferred to 40% formaldehyde for 7 days. They are then soaked for 30 days in the solution of synthetic resinoids made as follows:

4530 Gm. of Phenol crystals are melted by heating, and to this is added 15 Gm. of sodium hydroxide and 15 Gm. of salicylic acid, previously dissolved in a few cubic centimeters of water. 1684 Gm. of trioxymethylene crystals is added to this liquid. It is important to heed Rosett's caution about the preparation of the resinoid solution. "Its temperature begins to rise after the addition of the trioxymethylene, at first gradually, then with increasing rapidity until, in the course of an hour or two, depending on the temperature of the room, unless precautions are taken, it fulminates, evolving great quantities of formaldehyde gas. If fulmination has proceeded to the stage at which the solution becomes viscous, the chances of stopping up the plumbing should be borne in mind. A practical way of avoiding this is to place the jar in which the ingredients are mixed in a large bucket full of running cool water. The ingredients will crystalize in the course of an hour or two, but the jar should be kept in the running water for twenty-four hours, after which the danger of fulmination is passed. The ingredients will dissolve and combine in the course of a week or two. The process may be expedited without danger after the first twenty-four hours by placing the container in a bucket of warm water. When ready, the solution is clear, transparent, and of the reddish-yellow color of light amber."

Specimens remain in this solution of resinoids 30 days or more. A slice ¾ inch thick is infiltrated in 30 days. A cerebral hemisphere requires at least 2 months. When infiltration is complete, the specimens are translucent, pale brown, and rubbery.

Polymerization: The specimens are taken out of the solution, blotted dry, and placed in a thermostatically controlled oven at an initial temperature of 50°C. To prevent warping stiff brass wires are inserted into the brain substance for support. In the oven the brains and dissected specimens are supported in cloth-cradles slung on wire baskets. By using cloth-cradles distortion of the brain is avoided.

Specimens are baked at 50°C for 7 days, 60°C for 7 days, 70°C for 7 days, and 85°C for 7 days. If the temperature of baking is raised too fast, specimens blister. A convenient electric oven we built for this process is described below. At the end of 28 days of baking the specimens are dry hard pieces of bakelite of cloudy purple color. Details of the brain structure are not distinct.

Developing and Finishing: By boiling the specimens in a solution of 0.1% sodium hydroxide and 2% salicylic acid for 2 hours the purple discoloration is removed, and there is a coating of yellow scum. This scum is readily removed from flat surfaces by polishing on a revolving sandpaper wheel.

[1] Rosett, Joshua: A New Method of Preserving Normal and Pathologic Brain Tissue: Arch. Neurol. & Psychiat. 32:513, 1934.

The authors are indebted to the following pathologists for generously supplying the specimens used in this study: Drs. B. Earle Clark and Robert J. Williams, Rhode Island Hospital; Dr. Constant E. Schradiek, Homeopathic Hospital; Dr. Robert Fienberg, State Hospital for Mental Diseases.

Figure 1

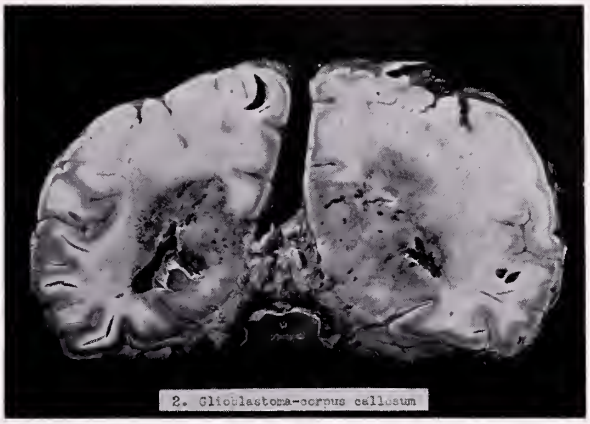

Figure 2

From sulci, crevices, and other irregular surfaces of brains and dissections the scum is removed with a wire brush wheel.

Rosett then polished the specimens by buffing with pumice and lustering with rouge. Rosett's bakelite specimens were striking, but a bit pale and blurred.

We found in our bakelite specimens that better color and greater detail is obtained by putting the specimens into the oven again and baking for 24 hours longer at 85°C. By this additional step contrast in color between white matter and gray matter becomes greater. Tissue differentiation of brain tumors is striking: blood vessels stand out purple black, necrotic tissue is dark yellow, tumor seeding is clear.

Comment: A suitable oven is essential for good results. We have constructed one which is very convenient and inexpensive.

An iron frame 36 inches long, 24 inches wide, and 30 inches high is covered with two layers of galvanized tin and provided with an iron front door hinged to open downwards. Five snugly fitting iron shelves are bolted into the frame 6 inches apart. An oblong slot 12 inches long and 4 inches wide is cut out of each shelf parallel to the end. The shelves are so placed in the oven that the slots are on opposite ends in each succeeding shelf. A small oblong slot 3 by 6 inches is cut in the roof of the oven at the end opposite to the slot in the top shelf. An electric plate is set on the bottom of the oven and wired to a thermostat placed on the top shelf. The thermostat is set at 50°C, thermometers placed on each shelf, the oven door closed, and temperatures read at the end of an hour. The oven is essentially a constant heat-loss apparatus. The bottom shelf is too hot for use, because it receives heat by radiation as well as by convection. If the temperature on the 4th shelf from the top stabilizes at 85°C when the top shelf is 50°C, the 2nd shelf is 60°C, and the 3rd shelf is 70°C. If the temperature of the 4th shelf is more than 85°C, the slot in the roof should be enlarged and the experiment repeated until the 4th shelf stabilizes at 85°C with the top shelf at 50°C. If, on the other hand, the temperature on the 4th shelf is less than 85°C with the top shelf at 50°C, the slot in the roof should be made smaller, until the desired temperature is reached.

Bakelite Brain Specimens.

Twenty-five brains were preserved by the bakelite process. Photographs of three sample specimens are shown:

(1) Figure 1 shows a glioblastoma multiforme in the left fronto-parietal area. Note the distinction between gray and white matter and details of tumor structure.

(2) Figure 2 shows a "butterfly tumor of the corpus callosum". This tumor was a glioblastoma multiforme. It arose in the white matter of one cerebral hemisphere and seeded its way through the corpus callosum to the white matter of the opposite cerebrum.

(3) Figure 3 shows a glioblastoma multiforme in the left temporal lobe. Note the difference in size between the two cerebral hemispheres. The brain and ventricles are markedly distorted.

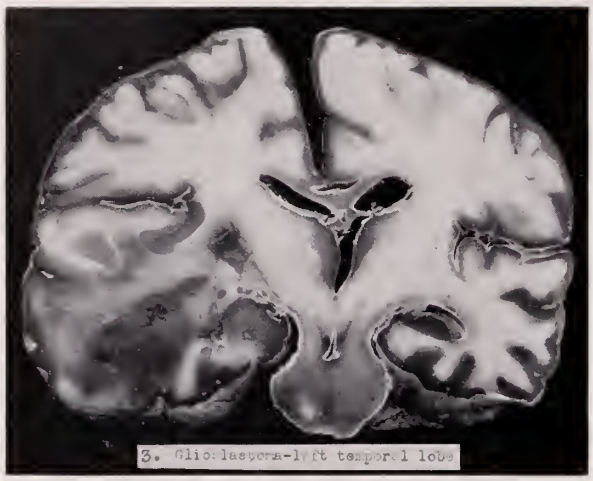

Figure 3

Summary.

By Rosett's bakelite method with Korb modification we have made bakelite preparations of 25 human brains known to us clinically. The process together with the construction of a suitable inexpensive oven are described. Specimen photographs of three glioblastomas are presented.

TULAREMIA

REPORT OF A CASE CONTRACTED FROM AN INFECTED RABBIT TREATED WITH SULFANILAMIDE

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Tularemia was unknown in New England until 1929, and the rarity of its appearance here is not wholly explained. The first case was reported by Dr. Randall,[1] occurring in North Scituate, Rhode Island. A man found three dead rabbits on his farm and contracted tularemia after tearing apart one of the dead rabbits to feed to his cat. The cat died very soon after eating the rabbit, but the patient recovered. In the same year a man in Massachusetts contracted the disease after dressing a cold storage rabbit obtained from the Boston Market.[2] In 1931 in Claremont, New Hampshire, a person became ill with tularemia after dressing two rabbits killed near by. A fourth case occurred in 1933 in the Moosehead Lake region in Maine, where a hunter contracted the disease after skinning a red fox. In 1939 Badger[3] reported the second case diagnosed in Massachusetts. This case was the first reported on the Cape, and was contracted at West Falmouth in 1937. A child ten years old contracted tularemia of the typhoidal type from an infected dog and the mode of transmission of the disease was by the dog's saliva from hand to mouth. Since that time Moss and Evans[4] reported two additional cases of tularemia in Massachusetts, one in 1938 and one in 1939. The latter case was contracted from a wood tick bite. The former was a case registered at the Massachusetts Department of Public Health which was not reported in the literature. Although Rhode Island has not had a reported case since 1929, several dead rabbits were found near the Kimball Bird Sanctuary[5] in South County, in 1937. The dead rabbits showed typical lesions of tularemia and typical organisms were isolated by the Rhode Island State Board of Health. The spleen and liver of an inoculated guinea pig were sent to the National Institute of Health, Washington, D. C., but the organisms were dead on arrival, so that further research could not be carried out to verify the diagnosis made by the Rhode Island State Board of Health. Because rabbits infected with tularemia are prevalent in Rhode Island, and because we should all be on the lookout for tularemia, I felt obliged to report this case.

Case Report.

F. H., a sixty-nine year old widower, white, American, retired pharmacist, was referred to me on November 16, 1940. The complaints were general malaise, headache, slight cough, migratory muscular aches and pains associated with chills and fever of five days duration.

The past history was irrelevant. He has had excellent health and never required the services of a physician.

On November 5, 1940, while gathering bayberry and red elder branches he sustained two puncture wounds on his left hand. Two days later, on November 7, he went rabbit hunting. He shot a rabbit and immediately dressed it. This was the first time he was able to get a rabbit without a dog for several years. The rabbit was thoroughly cooked and eaten by himself, his daughter and son-in-law. He noticed nothing unusual about the rabbit when he dressed it.

Presented as a Case Report at a meeting of the Providence Medical Association, December 2, 1940.

On November 11 he had a severe chill and became ill with a fever of 102.4 degrees. He had general malaise, headache, migratory muscular aches and pains, and went to bed at the insistence of his daughter. Being a druggist he took various simple remedies without benefit.

On November 16, the day I first visited the patient, he was acutely ill with a temperature of 103.4 degrees and a pulse rate of 120, had a slight cough with a severe headache. The muscular aches were much worse. He insisted that he had the grippe and made light of the lesions on his fingers. He was surprised when his physician informed him that his illness was caused by the lesions on his fingers and that he did not have the grippe. He had the ulcers on his fingers covered with small bandages. Physical examination showed a well-developed and well-nourished man who appeared restless and euphoric. His throat appeared red and the tongue was dry. The heart, lungs and abdomen were negative. The blood pressure was 130/86. On the medial aspect at the base of the nail of the left ring finger was an ulcer one centimeter in diameter. It had a reddened base and contained a slough. No pus was present. A smaller ulcer about one millimeter in diameter was found on the outer aspect of the left index finger near the distal phalangeal joint. No red streaks or lymphangitis was present. Several epitrochlear glands of the left elbow were palpated and three large tender glands were present in the left axilla. Motion of the arm caused pain in the axilla.

Laboratory data. The first urine specimen taken showed a least possible trace of albumin, sp. gr. 1018, sugar negative, and sediment showed very few epithelial cells and a rare w.b.c. Three other specimens of urine taken at weekly intervals were negative.

On November 29 the hemoglobin content of blood was 62 per cent, the red cell count was 3,620,000. The red cells varied in size but were consistent in shape. A few cells were very large and extremely achromic. The white cell count was 8,700. The differential count showed 73 per cent polymorphonuclears, 23 per cent lymphocytes, 2 per cent monocytes and 2 per cent eosinophils. On January 10, 1941, the hemoglobin content of blood was 90 per cent, the red cell count was 4,460,000. The white cell count was 8,600. The differential count showed 72 per cent polymorphonuclears, 24 per cent lymphocytes and 4 per cent monocytes. Wassermann and Hinton tests were negative. On November 19, cultures were taken from each ulcer and sent to the Bacteriology Laboratory of the Rhode Island Department of Health where saline suspensions were injected into two guinea pigs.

The first guinea pig died two days after inoculation showing no evidence of infection with B. tularense. The second guinea pig died three days after inoculation. The peritoneal fluid, heart's blood, and spleen showed an abundance of minute gram-negative cocco-bacilli, culturally and morphologically typical of B. tularense.

Blood was taken for agglutination tests and sent to the National Institute of Health on the following days and reported as follows:

November 19—Agglutination of B. tularense: positive in dilution of 1:10, agglutination of Br. abortus: negative.

November 29—Agglutination of B. tularense: positive in dilution of 1:80, agglutination of Br. abortus: negative.

December 4—Agglutination of B. tularense: positive in dilution of 1:320, agglutination of Br. abortus: negative.

December 10—Agglutination of B. tularense: positive in dilution of 1:640, agglutination of Br. abortus: negative.

January 10, 1941—Agglutination of B. tularense: positive in dilution of 1:2560, agglutination of Br. abortus: negative.

On December 4, at a time when the ulcers appeared to be healing, a second culture was taken, and sent to the Rhode Island Department of Health Laboratory where they again isolated the B. tularense organisms and forwarded them to the National Institute of Health. The following is a report from the National Institute of Health: Spleen of guinea pig inoculated from the ulcer of the finger of F. H., and forwarded with your letter of December 6, was inoculated into guinea pigs all of which were dead or dying December 13 with typical lesions of tularemia from which bacterium tularense was recovered.

White blood counts and sulfanilamide determinations were made every other day during administration of the drug. The white blood count ranging between 8,700 on November 29 and 10,100 on December 13, when the sulfanilamide was discontinued. The blood free sulfanilamide determination ranged from 8.0 m.g. per cent to 9.0 m.g.

per cent. The level total ranged from 11.1 m.g. per cent to 11.8 m.g. per cent.

Clinical Course: The patient was very ill and the ulcers and regional glands remained the same. The symptoms and complaints varied little. Pains and insomnia appeared to be outstanding. The temperature fluctuated from 98.8 to 103.8 degrees. Because he showed no improvement from the onset of his illness, he was started on sulfanilamide on November 29, 1940, receiving 90 grains a day with an equal amount of sodium bicarbonate. On December 2, because he had a marked arthritis with painful motion and stiffness of his joints, the dose was reduced to 60 grains a day. By December 10, both ulcers were healed and the temperature remained down running between 98.6 and 99.2 degrees. By December 13 his temperature was normal, and he was free from symptoms except for pain and swelling in his left axilla. At the onset there were three distinct firm palpable nodules in the left axilla. These became confluent and soft. By December 24 there was a flucuent, tender, red swelling the size of a small orange present. This was incised using ethyl chloride spray. About one ounce of pus was liberated. The temperature remained normal. A culture taken at the time of incision was negative for b. tularense. The wound was entirely healed by January 29, 1941.

Definition.

Tularemia is an infectious, but relatively noncontagious disease, due to infection by Bacterium tularense (Pasturella tularense), appearing in man after exposure to the skin, hides or flesh of infected rabbits, rodents, and by the bites of blood sucking ticks or other insects who have previously fed on animals infected with B. Tularense, characterized clinically by a prolonged course, and pathologically by the formation of infective granulomata which occur generally in the reticulo-endothelial tissue.

History.

Tularemia, as we know it, was originally confused with bubonic plague, both clinically and bacteriologically. Wherry,[6] in 1908, published a review of this problem and as a result, until 1909, squirrel plague (now known as tularemia) and human plague were thought to be the same disease. In 1910 McCoy[7] showed that there was a distinct difference between bubonic plague and squirrel plague. In 1911 McCoy and Chapin[8] identified the organism of squirrel plague, cultured it, transmitted it to guinea pigs and named it Bacterium tularense (Pasturella tularense), after Tulare County, California, where the disease was first observed. In 1914, Wherry and Lamb[9] reported the first case of human infection with the organism discovered by McCoy and Chapin. Since 1914 tularemia has become widely distributed throughout the United States, so that, every state and the District of Columbia, except Vermont and Connecticut have reported cases. The disease was reported in Japan in 1925, in Russia in 1928, in Norway in 1929, in Canada in 1930, and in Sweden in 1931. Since 1931 cases have been reported in British Columbia, France, Finland, Czechoslovakia, Maravia, Austria, Turkey and Germany.

The literature contains a large volume of clinical, pathological and bacteriological studies of tularemia, but Francis,[10] who was one of the first students of this disease, describes four clinical types, as follows: 1. Ulcero-glandular: The primary lesion at the site of inoculation is a papule of the skin. This papule later ulcerates and is accompanied by enlargement and often ulceration of the regional lymph nodes. 2. Oculoglandular: The primary lesion is in the eye (transmitted from the hands) and is accompanied by enlargement of the regional lymph nodes. 3. Glandular: No primary lesion is found at the site of inoculation, but there is fever and infected regional nodes are found. Later there is a generalized adenopathy. 4. Typhoidal: Persistent fever is the outstanding feature. There is no primary ulceration and no detectable lymph node enlargement. This type is so named because of its similarity to typhoid fever, with which it is often confused. At other times it passes for fever of unknown origin, septic infection and influenza. The pulmonary lesions in the typhoidal form have led to the diagnosis of tuberculosis or of pneumonia. The cross-agglutination with Brucella abortus and Brucella mellitensis have caused it to be called undulant fever. A clinical diagnosis of typhoidal tularemia is rarely possible. Where persistent, unexplained fever exists, however, specific agglutination tests offer the only clue to diagnosis. The typhoidal type is a generalized infection from the start, with minor cutaneous or regional lymphatic involvement, or more commonly none at all. In the other three types of the disease the lymphatic system appears to bear the brunt of the attack. Multiple lesions in the deep organs and lungs characterize the typhoidal type.

The mortality rate of the typhoidal type of tularemia Foshay[11] found to be approximately 40 per cent, nearly four times that of other clinical types, and the incidence of complicating pneumonia four times the average in the other three types.

Source of Human Infection.

Human beings become infected with Pasturella Tularensis by contact with the raw flesh or blood of infected animals, by the bites of blood sucking insects and flies and by the eating of insufficiently cooked infected meat. Francis[2] in a recent report pointed out that twenty varieties of wild life contract and transmit tularemia. The cottontail rabbit, the snowshoe hare and the jack rabbit account for 90 per cent of all human infections.

Most infections occur through wounds or abrasions in the skin, most frequently of the hands, but Pasturella Tularense can penetrate the unbroken skin. Wood ticks, horse flies, dog ticks, deer flies, house flies, fleas and bedbugs have been shown to cause infection. Tree squirrels and opossum have been responsible for cases of tularemia. One case each has been reported from skinning a sage hen, coyote, deer, red fox, and bull snake. Two cases each came from contact with quail, ground hog and skunk. Two patients have been scratched by cats. Single cases have followed from bites of the cat, skunk, coyote, tree squirrel, opossum, hog, lamb, white rat, and dog. Contamination in the latter group of cases is believed by Francis to be from the animals' mouths.

Bacterium Tularense have been recovered from water rats, meadow mice, muskrats, sheep, ring-necked pheasant, ruffed grouse, fox squirrel, cattle, game birds, beavers, sparrows, and domestic fowl. The literature contains papers discussing the above mentioned animals as sources of infection.

Market men, hunters and meat dressers are most frequently affected, usually with the ulcerative type. Laboratory workers have frequently been infected with a high incidence of the typhoidal type of the disease.

Non-Contagiousness and Immunity.

According to Francis there is no record of transfer of infection from man to man. Doctors, nurses and other attendants on the sick have not contracted the disease. One attack confers a lasting immunity. Blackford,[12] however, reports two cases of ulcerative dermatitis where living organisms were obtained five to twenty-one months after the initial infection. Foshay, discussing Blackford's paper, says that relapses, he believes, are due to residual living bacteria in the tissues and most commonly occur in cases with ulcerating skin lesions and chronically suppurating lymph nodes.

Other Etiologic Features. B. tularense apparently attacks individuals irrespective of their age or sex. It is said that the Negro is not very susceptible. The disease exhibits well marked seasonal incidence; in the East it occurs during the open season for rabbits, while in the West it occurs during the warmer months when ticks, flies and other insects are most prevalent.

Pathology. The pathologic changes of tularemia involve chiefly the recticulo-endothelial system. There is a marked lymphangitis which is nodular in type, an exaggerated lymph adenopathy and involvement of the liver and spleen. The condition is essentially that of an infectious granuloma.

Symptoms.

After a short period of incubation, ranging from one to six days, and averaging about three and one-half days, there is a sharp onset of the disease, usually without prodromal symptoms of note. There occurs a severe chill, followed by the prompt elevation of the temperature and associated with pains and aches throughout the body, notably in the muscles of the back and thighs, and associated with headache. The prostration at this time is quite marked, although not as severe, as a rule, as with other infectious diseases that have an equally abrupt onset.

Diagnosis.

Under ordinary circumstances there is not very much difficulty in recognizing a case of tularemia,[13] the ulcer on the finger, the very large regional lymph glands, and the frequent general enlargement of the lymph structures throughout the body, making it possible to readily diagnose the condition. In rare instances it may be that typhoid fever, malaria, tuberculosis, or Hodgkin's disease may simulate or be mimicked by typhoid or glandular types of tularemia, or the ocular type, gonococcic ophthalmia.

In its bubonic forms the disease is one of the easiest of infections to diagnose correctly from history and physical signs alone. The appearance of regional buboes with diameters of three to four centimeters without associated visible lymph-

angitis by the fourth to sixth day of a prostating febrile disease in patients who give histories of contacts with wild animals, ticks, or biting flies is very seldom duplicated by any other infection.

The typhoidal clinical type often presents great difficulty in diagnosis and it is always necessary to resort to laboratory aids for confirmation. More cases of this type would be diagnosed correctly, and earlier, if the possibility of tularemia were borne in mind and if diagnostic tests were applied at once and repeated every four or five days, especially for patients with unexplained fevers and atypical pneumonias that occur during the rabbit, squirrel, and quail hunting seasons, and during the periods of greatest activity of ticks and blood sucking flies. Early and accurate diagnosis is especially desirable since the typhoidal type has a mortality risk four times that of the other types and because these patients respond especially well to the early serum treatment.

The organism B. tularense can most always be recovered from the ulcer. It is a short, non-motile, nonspore-forming rod, which shows well-marked pleomorphism.

The blood count affords but little assistance in diagnosis. The average blood picture in the counts from the literature was: erythrocytes 4,000,000, leukocytes 11,600, hemoglobin 65 per cent. Differential count: mononuclear cells 23 per cent, polymorphonuclear cells 77 per cent. The extremes of the leukocyte count were 34,000 and 3,500.

The Agglutination Test.

The provisional diagnosis of tularemia may be absolutely confirmed by the agglutination reaction which is obscured only by occasional cross agglutination with B. Melitensis and B. Abortus, which reaction may remain positive for a considerable period after the patient has had an attack of the disease.

Francis states that there is apparently a complete absence of agglutinins for Pasturella Tularensis during the first week of the disease. The appearance of specific agglutinins occurs sometime in the second week, with an abrupt rise in titer in the third week, reaching its maximum in the fourth to seventh week. After the eighth week the titer usually falls, but positive agglutinins have been known to remain as long as twenty years.

Foshay states that the reliability of the microscopic serum agglutination test for verification of diagnosis approximates perfection, although many thousands of cases have been studied in this and in other countries, there is no report of a single failure of a patient to develop serum agglutinins unless death occurred during the first two weeks of the disease. Moreover, once agglutinins have been acquired as a result of infection they have not yet been found to disappear completely thereafter, even if tested for as long as thirty-three years after recovery. The use of this one test, therefore, makes it possible to diagnose the disease, both in its acute phase and after recovery, with a degree of accuracy seldom encountered in other infectious diseases.

Although the serum agglutination test is extremely reliable the well-established knowledge that serum agglutinins never appear during the first week of disease, and occasionally may not appear until the third week or, rarely, until the fourth week, makes it unsuitable as a test for early diagnosis. Nevertheless, the inevitability of eventual appearance of agglutinins makes this test an ideal standard with which the results of other diagnostic aids can be compared.

Skin Tests. Foshay[13] has shown that an intradermal test done with oxidized bacterial suspension of B. Tularense is the earliest diagnostic aid for determining the presence of tularemia. The allergic skin response is specific and reliable. Positive reactions occur as early as the fourth day of illness, almost a week before agglutinins appear in the blood. He has demonstrated that positive skin reactions are constant in the presence of tularemia, but do not occur in normal persons or in the presence of other acute infections.

The test is performed by injecting intracutaneously about 0.05 cc. of the B. Tularense suspension, to make a wheal 5 m.m. in diameter. It should be read forty-eight hours after the injection is made. The special antigen is safer than a highly diluted suspension made from formaldehyde-killed agglutinating antigen, since the latter is capable of provoking occasional serious focal and constitutional reactions as well as necrosing local reactions. Falsely positive reactions have not yet been recorded with Foshay's skin test antigen, and the test is highly specific. A positive reaction has the appearance of a positive tuberculin test and, like the latter, usually requires forty-eight hours for its development. No delayed reactions, appearing after forty-eight hours, have been noted.

The chief advantage claimed for the skin test is that it will usually confirm the diagnosis during the first week of disease when serum agglutinins are always absent.

Cutaneous tests with diluted anti-tularemia serum are performed by injecting intradermally 0.04 cc. of the diluted immune serum at one site and the same amount of diluted normal serum at another site. It is imperative that the control tests be made every time the immune serum is used in order to exclude the possibility of previous serum sensitization. Positive reactions appear almost immediately in most cases, seldom later than the third minute and never later than the sixth minute after injection. This reaction should be read immediately and at five-minute intervals up to the twentieth minute. A positive reaction consists of enlargement of the central wheal to two or two and a half times its original diameter, with a surrounding areola of erythema usually at least one inch (2.5 cm.) in diameter, at the site of the immune serum injection, with no reaction at all at the site of the normal serum injection. Falsely positive reactions have not been recorded, and the specificity of the test appears to equal that of the cutaneous test with the bacterial antigen.

Both of these tests have given positive reactions when applied as early as eight hours after the initial chill. Foshay does not recommend the use of the antiserum test for general diagnostic use until proper test and control serums can be made available.

Prognosis.

The average patient who has tularemia will recover. Throughout the country as a whole the mortality rate is 3.75 per cent. Although the prognosis is excellent as to life, it should not be forgotten that a profound psychic and physical depression persists for many weeks and months after the original infection, and that during this time there is a likelihood of the development of some intercurrent infection which may be very much more severe than in the normal individual and which, in turn, may be responsible for death.

Treatment.

The antiserum developed by Foshay[13] is of specific therapeutic value. There is, with its use, a definite antitoxic action with a fall in temperature, disappearance of symptoms and regression of lymph nodes, if present, and healing of primary lesions.

In Foshay's[13] most recent article he has definitely shown by his figures that serum therapy shortens morbidity and diminishes mortality to significant degrees. Serums were prepared from goats and from horses by prolonged series of subcutaneous inoculations with dense formaldehyde killed suspensions of virulent strains of B. tularense. The usual mode of administration of the serum was by the intravenous route. Many patients received it by intramuscular injection and most children were treated by subcutaneous injections.

Symptomatic treatment of tularemia still holds the place it should in any acute infection, but specific serum now offers the safest and surest method of treatment. Intravenous chemotherapy with arsenicals[14] and iodides[15] has proved of no value. X-ray treatment[16] for primary local lesions has been thought to shorten the course of the disease if applied in the first four days of the disease, but is of doubtful value.

Immunotransfusions has been shown of value, but suitable donors are difficult to find. Foshay[13] reports a case of acute tularemia treated as effectively by immune serum as by antiserum.

No accurate data are available on the use of sulfanilamide in the treatment of tularemia.[15] Unpublished information on its use in thirty cases indicates little or no favorable action of this drug on tularemia.

Curtis[17] reports successful results with sulfanilamide treatment in four cases. He states "four cases of tularemia were successfully treated with sulfanilamide, which was first administered more than a week after the beginning of the disase. In one case sulfanilamide was given within twenty-four hours of the acute onset of the illness and it did not prove beneficial. It is the present consensus that the best results are obtained in the treatment of infections with the gonococcus and the various forms of streptococcus when sulfanilamide is not started until the body has had time to elaborate its own defense mechanisms. Analagously, in my opinion sulfanilamide should not be used during the first few days of tularemia but it is invaluable when instituted after the defense mechanisms of the host have been brought into play."

Treatment therefore consists of prophylaxis and curative measures. With the extensive dissemination of the disease among the rodent population of this country, notably the rabbits, preventive meas-

ures to combat the spread of tularemia have to do largely with the proper handling of rabbits that are killed by hunters, and are used by them in their homes, or if market hunters send the animals to be sold to the general population for food and the skins to be used for wearing apparel, those engaged with the skinning of the animals, the handling of the fur, and the preparation of the animal itself for market should take precautions which will prevent the development of the disease. They should protect themselves with rubber gloves and frequent careful washing of hands. Possible hunters and market men who handle rabbits from grossly infected areas should be immunized. Foshay[13] urges this for those doing laboratory work or animal experimentation, feeling that it is the only prophylactic measure of value. Bacteriologists who handle the organisms frequently develop the disease despite elaborate precautions that have been taken to prevent infection. In the far West, men whose occupations are such that they are exposed to the bites of ticks develop the disease with a fair degree of frequency. They should wear protective clothing. In the case of occasional hunters, they should be warned to avoid shooting or killing rabbits which are sluggish and which do not make the customary effort to get away from the hunter. Such rabbits should be avoided like the plague.

The glands should never be incised, unless there is definite evidence of suppuration, and even then there is considerable dispute as to whether the glands should be opened when the patient has any fever. It is best to let these glands go for some time and see if resolution does not take place, or if it does not, then at a considerably later period, when presumably they have become sterile, to incise them. One of Musser and Cannon's[18] fatal cases had a fluctuating gland in the neck which the surgeons thought should be opened and drained. Apparently as a result of this procedure, there was a rapid dissemination of the organism throughout the body and death occurred in a comparatively short time. Surgery, therefore, should be used only for the incision of acute suppurating glands.

Summary.

A case of tularemia is reported because of its rarity in the State of Rhode Island. Sulfanilamide undoubtedly shortened the length of this patient's illness. An interesting fact, is the behavior of the incised gland, namely, the rapidity of its healing. At the Charles V. Chapin Hospital an analagous condition was noted in the sulfanilamide treatment of their scarlet fever cases. The physicians noted that the cases that were treated with sulfanilamide and later had glands incised healed more rapidly than when they were not treated with sulfanilamide.

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THE NATIONAL PHYSICIANS' COMMITTEE and CHANGES IN MEDICAL CARE

The National Physicians' Committee has recently sent out literature reaffirming its position and appealing for funds. This committee was formed for the purpose of opposing the "regimentation of medical practice under political domination on a nation wide scale, and for care to any except the medical indigent and those receiving other types of relief." Both the President and Mr. Willkie have stated that they are opposed to the socialization of medical practice. The House of Delegates of the American Medical Association has taken the position which the National Physicians' Committee later adopted. The Rhode Island Medical Society has formally taken a similar stand and as far as we know there is no dissenting minority.

There are still elements of danger in the situation. At present there is no general demand for a government system of medical care. There are however a certain number of people who have a fanatical enthusiasm for furnishing medical care immediately to all the population by government action, and either politicians or well intentioned reformers can use these people to create a demand for increased socialization of medicine. For this reason it is to be hoped that the National Physicians Committee will receive support from a large majority of the profession.

Another danger is that, through antagonism to the so called reformers, the medical profession will fail to provide proper leadership in providing medical care for the poor. The indigent and medically indigent need better care, and it is for the best interests of the community and the medical profession to provide this care without unnecessary delay. For this purpose the medical societies and the individual physicians should be active in cooperating with the tax supported and private agencies in working out such plans.

A much more difficult question is that of our attitude toward voluntary health insurance plans such as the White Cross in Boston and the Group Health Cooperative in New York. The immediate effect of a voluntary health insurance plan is very tempting. The regular payment on an insurance basis is of obvious advantage to both the patient and the physician. On the other hand the ultimate effect of such plans is difficult to foresee. This distribution of responsibility for the individual patient among a group may injure the quality of treatment. Also history has shown that those who most need spreading of the cost of medical care do not in general avail themselves of a voluntary plan and that the pressure for compulsary insurance of all the people soon becomes irresistible. Probably we in Rhode Island shall be wise not to take any fixed position now but to watch carefully the developments of these plans so that we can act wisely when such action is necessary.

We believe therefore, that the physicians of Rhode Island should take the following position.

1. We should furnish active support to the National Committee of Physicians in opposing increasing government control in the practice of medicine.

2. We should cooperate with the local and state tax supported agencies in providing medical care for the indigent and medically indigent.

3. We should watch and study the voluntary insurance plans further before taking a stand on this question.

MEDICAL HISTORY IN NEWPORT

The Pilgrim Fathers had little use and no place for dissenters from their ideas. Episcopalian Holmes suffered thirty stripes rather than pay a fine of thirty pounds; John Clarke was put in gaol and paid a fine of twenty pounds; Roger Williams was banished from Plymouth Colony; the less fortunate Quakers were hung in Boston Common. To escape religious persecution, in the spring of

1636, Williams fled into the wilderness, where, joined by other refugees, he attempted a settlement at Rehoboth, east of the Seekonk River. But warned from this site, which encroached on the holdings of Plymouth Colony, the fugitives crossed the river to the west shore. Williams chose the place which he named Providence while a band led by John Clarke journeyed southward to Aquidneck Island where they purchased land from the Indians and founded the settlement at Newport.

The Puritans enjoyed freedom in Plymouth Colony, Baptists flourished at Providence, but in Newport, as Cotton Mather stated, "Rhode Island was occupied by Antimonians, Anabaptists, Quakers, Ranters, and everything else, and if any man has lost his religion, he may find it in this general muster of opinions." When Quakers were hanging from the trees in Boston Common, the Governor of Rhode Island was a Quaker.

Until 1760 no physician settled in Providence but in Newport the founder had a medical education and had signed his name, "John Clarke, Physician, of London." Dr. John Clarke not only practiced medicine in Newport but on Sundays preached in the First Baptist Church. For a hundred years John Clarke was followed by a line of eminent physicians. The names of Hooper, Halliburton, John Brett, Isaac Senter, Walter Channing, and William Hunter are notable in medical history. Previous to 1772, Dr. Jonathan Easton of Newport was practicing inoculation against small-pox. Dr. Benjamin Waterhouse brought the first knowledge of vaccination to this country when he returned from England in 1800 and first proved its value by vaccinating his own children.

Dr. William Hunter came to Newport in 1752 after completing his studies at the University of Edinburgh under the celebrated Dr. Munro, Senior, founder of the medical school there. Dr. Hunter practiced in Newport for twenty-four years. His apothecary shop, his medical library, and his collection of surgical instruments were famous in their time. In 1755-1756, Dr. Hunter gave lectures on anatomy and surgery in the Senate Chamber of the Old Colony House at Newport. The lectures were advertised in the Boston Post in January and February, 1755. On September 13, 1761, in Trinity Church, William Hunter married Deborah, daughter of Godfrey Malbone, a name celebrated in colonial history. Edward Malbone, painter of miniatures, was a nephew of Deborah Hunter.

About the year 1730, Dean Berkeley created a medical furor in Newport by his advocacy of tar-water as a cure for most diseases. "Tar water is of a nature so mild and benign and proportioned to the human constitution, as to warm without heating, to cheer but not inebriate." Reverend George Berkeley, Irishman by birth, educated at Oxford, had sailed from England with the intent of founding a school for the benighted savages in Bermuda. The captain of his ship could not find the Island of Bermuda but succeeded in discovering a land unknown to him but which proved to be in the vicinity of Newport. Here for some years Dean Berkeley preached in Trinity Church. At Middletown he built a fine residence which he named Whitehall and which he presented to Yale College. In 1730 he founded the Newport Philosophical Society, which sponsored the Redwood Library, oldest American library in continuous use. On his return to England in 1732 he was made Bishop of Cloyne. In 1733 he sent from England the organ which is in Trinity Church. While in Newport Dean Berkeley composed his "On the Prospect of Planting Arts and Learning in America." The last stanza reads,

"Westward the course of empire takes its way,
The first four acts already past;
A fifth shall close the drama with the day,
Time's noblest offspring is the last."

PROVIDENCE MEDICAL ASSOCIATION

March Meeting

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, March 3, 1941. The meeting was called to order by President Danforth at 8:35 P. M.

The records of the previous meeting were read by the Secretary.

The Secretary reported that the Executive Committee at its last meeting had moved that "Any man known to have been in military service for a period of six months, shall automatically be granted a leave of absence and excused from the payment of dues, which, if already paid, shall be remitted, provided such doctor has not already requested a leave of absence from the Association."

The Association passed a resolution, prepared by the Committee on Pre-School Examination, endorsing such examinations. The resolution follows:

> BE IT RESOLVED, That the Providence Medical Association endorses the pre-school examination of the children of Providence, and that it assures the City Health Department, the City School Department and the Parent-Teachers' Association of its continued support and cooperation in the effort to have all children of pre-school age given an adequate physical examination, preferably by the family physician.

In the absence of Dr. William H. Foley, Chairman of the Legislative Committee, the Executive Secretary read the report of that Committee, which included a summary of all legislation introduced in the General Assembly to date and also included reference to legislation to be sponsored by the Medical Societies.

The President announced that the obituary of the late Thomas J. Smith, prepared by Dr. John E. Donley and Charles F. Gormly, had been filed with the Secretary.

The President introduced Dr. Lucius C. Kingman, President of the State Medical Society, who spoke briefly relative to the mid-winter meeting of the Rhode Island State Medical Society to be held on March 20. He also called the attention of the members to the meeting of the State Society in May to be held in Newport this year. The importance of membership in the State Society was stressed by Dr. Kingman, who called attention to the fact that approximately 150 members of the Providence District Society have not joined the State Medical Society. He pointed out the value of a strong, united organization in these troubled times and urged that every doctor accept the responsibility of aiding in the work of his State Medical Society.

There being no reports of cases nor presentation of specimens, Dr. Danforth introduced as the first speaker of the evening Dr. Gordon J. McCurdy, who presented the topic "Endaural Mastoidectomy." This was explained as mastoidectomy through an incision of the ear canal. The operative technique in simple and radical mastoidectomy was clearly outlined with the aid of slides. Patients were demonstrated, illustrating the early and late appearances of the ear after operation. The paper was discussed by Drs. Adams, Bolotow, and O'Connor.

The second paper of the evening, entitled "Industrial Medicine", was presented by Commander Charles R. Oliphant, Medical Corps, Naval Torpedo Station, Newport, R. I. The speaker pointed out the many phases and purposes of this increasingly important specialty and emphasized particularly the preventive and public health aspects. He also analyzed in detail the tremendous savings to employers made possible by keeping employees at work through the intelligent application of industrial medicine. The paper was discussed by Drs. Cianci and Chaffee.

The meeting adjourned at 11:00 P. M. Attendance, 85. Collation was served.

Respectfully submitted,

FRANK B. CUTTS, M.D., *Secretary*

NEWPORT COUNTY MEDICAL SOCIETY

On Wednesday, January 19, 1927, this being the ninetieth birthday of Dr. William W. Keen, who has served Rhode Island with special distinction, the Newport County Medical Society held its Annual Meeting. The meeting took place in the Senate Chamber of the Old Colony House, where in 1736, Dr. William Hunter delivered the first course of lectures on medical science ever given in the American colonies.

The Annual Address was delivered by the President, Dr. William S. Sherman, on the subject "Early Medicine and Surgery in Newport County." Dr. Sherman said in his address that the corner stone of American Medicine and Surgery was laid in the County of Newport and spoke especially of Dr. Samuel Fuller, who came over in the Mayflower, Dr. John Clarke, Dr. Robert Jeffreys, Dr. John Cranston, Dr. Henry Groonland, Dr. Simon Cooper, Dr. John Brett, Dr. Thomas Moffat, Dr. Benjamin Church, Dr. William Hunter, Dr. Benjamin Waterhouse, Dr. James Gardette and Dr. John Oliphant as among the noted doctors and chirurgeons of early days.

Dr. Sherman said, in part:—

I believe in the past, for out of it has proceeded all that we have and are.

With our settlers, in 1638, came Dr. John Clarke, the first physician of our colony, and one of the most remarkable men of his time. Fresh from the clerical and medical studies at the University of Leyden, he became the pastor of the First Baptist Church in Newport, which now bears his name. It

Newport Herald, Thursday, January 20, 1927. R. I. Medical Journal, XIV: 76, May, 1931.

was due to his work, covering twelve years in England, that the Royal Charter of 1663 was secured. It remained our form of government for one hundred and eighty years. It has been said, "Had Dr. John Clarke of Newport no other claim to the first place among the founders of American colonies, the Royal Charter of 1663 would confer this honor."

In the rooms of the Newport Historical Society is a tablet bearing the following inscription:

TO
JOHN CLARKE, PHYSICIAN,
1599 - 1676
FOUNDER OF NEWPORT,
AND OF THE CIVIL POLITY OF RHODE ISLAND.
ERECTED BY THE NEWPORT MEDICAL SOCIETY.
DEC. 1885.

One of the first acts under the Royal Charter is of more than passing interest as it is believed to be the first medical degree conferred in any of the colonies, March 1st, 1664, in Newport, more than a hundred years before King's College in New York first conferred the degree of Doctor of Medicine.

"Whereas the Court have taken notice of the great blessing of God on the good endevers of Captayne John Cranston of Newport, both in phissicke and chirurgery, to the great comfort of such as have had occation to improve his skill and practice, &c. The Court doe therfore unanimously enacte and declare that the said Captayne John Cranston is lycenced and commistioned to administer phissicke, and practice chirurgery throughout this whole Collony, and is by this Court styled and recorded Doctor of phissicke and chirrurgery, by the athority of the Generall Assembly of this Collony."

This century (1730-1830) was one of great progress in medical education in Rhode Island. Bishop Berkeley, who came to this country to promote education and to establish a college, was a strong influence in the Philosophical Society of Newport, founded at this time (1730). His stay on Rhode Island and his writings made a lasting impression on the world of letters. The good dean must have been interested in the ills of the body as well as those of the mind and soul. Here is some of his advice regarding Tar Water.

"To render Tar Water as generally useful as possible, I would draw up some rules and remarks, in a small compass.

"Norwegian tar being the most liquid, mixeth best with water. Put a gallon of cold water to a quart of this tar, stir and work them very strongly together, with a flat stick, for about four minutes. Let the vessel stand covered forty-eight hours, that the tar may subside. Then pour off the clear water, and keep it close covered, or rather bottled, and well stopped, for use.

"I must own myself persuaded, from what I have already seen and tried, that tar water may be drank with great safety and success in the cure or relief of most if not all diseases, in ulcers, eruptions, and all foul cases; scurvies of all kinds, disorders of the lungs, stomach, and bowels; in nervous cases, in all inflammatory distempers; in decays and other maladies: Nor is it of use only in the cure of sickness: it is also useful to preserve health, and guard against infection and old age; as it gives lasting spirits, and invigorates the blood. I am even induced, by the nature and anology of things, and its wonderful success in all kinds of fevers, to think, that tar water may be very useful in the plague, both as a cure and a preventive."

About this time several medical men of great ability and learning came to us, notable among them Drs. John Brett and Thomas Moffatt, whose work in the interest of the Philosophical Society and Redwood Library did so much to lay the foundation of the medical department now bearing the name of Dr. David King.

The founding of The Company of the Redwood Library was the next step in the field of education. The Reverend Ezra Stiles, afterward President of Yale College, spoken of as "the most learned man in America," was its librarian for many years. He was largely responsible for the establishment of Rhode Island College — now Brown University, 1764.

Quoting from a diary of the Redwood family: "When the establishment of a college at R. I. was first contemplated, by certain persons of the Baptist society (a people who have panted after learning, in order to be able to give a reason for the faith that is in them) Mr. Redwood was applied to for aid, when he offered to give a thousand pounds sterling, on condition that it would be erected on Rhode Island. But an association of wealthy individuals in the town of Providence, chiefly of the family of the Browns offered still more, which happily fixed its location there."

Speaking of the Redwood Library, the same writer says, "The medical part of them (referring to the books) was excellent; they were amply sufficient to give the medical student complete information of all that was then known in the English language on Anatomy, Surgery, Chemistry, and Botany, together with the history of drugs, and of their various preparation and uses, with the history of the progress of Physic from the time of Hippocrates. It sowed the seeds of the sciences, and rendered the inhabitants of Newport a better read and inquisitive people than any other town in the British Colonies."

One of the most important events of this period was the course of lectures given by Dr. William Hunter in the Colony House. Of him Dr. Waterhouse says: "About the year 1756, Dr. William Hunter gave at Newport, R. I. the first anatomical and surgical lectures ever delivered in the twelve colonies. They were delivered in the Colony House, two seasons in succession. His collection of instruments was much larger than any professor exhibits at this day. Dr. Hunter was a man of talents, well educated at Edinburgh, and a gentleman of taste in the fine arts."

He further says, alluding to Dr. Hunter and Dr. Halliburton: "We doubt whether Boston, New York, or Philadelphia, ever had, at one and the same time, two practitioners of physic and surgery, better educated and more skillful than these two gentlemen."

Another who left the impress of his skill and conscientious investigation upon many pupils and followers is Dr. Jacques Gardette, a contemporary of Lafayette, who was commissioned as a surgeon in the French navy. When the French fleet and army arrived at Newport in 1780 he was induced to engage in the practice of general surgery and dental surgery in this town, where he was well received and found "considerable and congenial occupation."

After the Revolution there was activity along the lines of Public Health. Dr. Jonathan Easton had already introduced inoculation into Newport in 1772, his being the first three cases in Rhode Island.

Dr. Benjamin Waterhouse, who became an outstanding figure in American medicine, was born and practiced here. Later he became a professor at both Brown University and Harvard. He introduced vaccination into America, first vaccinating his son Daniel Oliver, five years of age, in July, 1800. This was the first person vaccinated in the Western Hemisphere.

At this period the work of the Navy claims our attention, and the report of the Battle of Lake Erie by Commodore Perry in 1813 throws much light upon the surgery of that day.

Quoting from his letter to the Secretary of the Navy, he writes:—"Of Dr. Usher Parsons, surgeon's mate, I cannot say too much. In consequence of the disability of both the other surgeons, Drs. Horsely and Barton, the whole duty of operating, dressing and attending nearly an hundred wounded, and as many sick, devolved entirely on him; and it must be pleasant to you, sir, to reflect that, of the whole number wounded, only three have died."

Dr. Parsons writes his own experience as follows:

On board the U. S. Sloop Lawrence, 1813

"Most of the action was supported by this vessel, as you will suppose when informed that out of one hundred and fifty men (our ship's crew), thirty-one of whom were sick previous to the action, we had rising eighty killed and wounded. This vessel was engaged with the enemy's two ships on one side and a brig astern raking us for two hours, all within musket-shot, during which we rendered the ships unmanageable, and when this vessel could not discharge another gun the Commander repaired on board the Niagara; and within fifteen minutes after he arrived within close action with them, the enemy's three vessels struck.

"Unfortunately for the wounded, the two surgeons had been confined for several days with fever, and could render them but little assistance. It has however operated in my favor, as I have had all the amputations to perform; and it affords me the greatest pleasure to reflect that in no case have I failed of the best success.

"During the action I cut off six legs in the cockpit, which were nearly divided by cannon balls.

"I had some narrow escapes for my life during the action. Five cannon balls passed through the room in which I was attending to the wounded. Two of the men I had dressed and laid aside in the commencement of the action were killed, before it closed, by other shots.

"I have had very poor health all the cruise, am reduced to a skeleton, but am recovering. Never will I cruise again on this lake or any other.

"I am now on my way in the Lawrence for Erie, having all the sick and wounded of the squadron on board, and shall continue in the hospital with them till they in a measure recover, and will then direct my course toward Cape Home."

Commodore Perry again selected Dr. Parsons as surgeon of the Java, on his cruise to Algiers, and he sailed from Newport on January 22, 1816. Two weeks later, in a severe storm, several men were thrown from the masts and yards; some were killed, and others required surgical operations. In assisting to move them, Dr. Parsons was thrown between decks, breaking his right knee-pan.

On the homeward voyage the crew suffered with the small-pox. Dr. Parsons inoculated them with small-pox virus, and all had the disease mildly. Some continued sick when the Java arrived in Newport, March 3, 1817, and the town authorities gave permission to "land a number of persons from on board the said ship, with the small-pox, at Coaster's Harbor island."

Dr. Charles Cotton, of Newport, a pupil of Dr. James Thatcher of Plymouth, of Revolutionary fame, is another outstanding figure of the Navy. He was commissioned as surgeon in the U. S. Navy on April 26, 1813. He was in the battle between the U. S. S. Hornet and H. B. M. S. Peacock, when the latter was captured, and is said to have been severely censured by Commodore Bainbridge for unnecessarily exposing himself in the action. February 10th, 1820, he received a silver medal, by act of Congress, for gallant services.

He was on board the Constitution when she carried Hon. John Jay to France. Afterward he was stationed at Charlestown navy yard, and in 1817 had charge of the naval hospital at Newport, R. I.

Dr. William Turner of Newport interests us as one who served his country in a dual capacity. Upon the breaking out of the second war with Great Britain he was appointed by Oliver H. Perry surgeon of his flotilla at Newport, June 29th, 1812, which position he held until September 29th, 1812, when he was commissioned surgeon's mate, U. S. Army, and ordered to Fort Walcott, Newport Harbor. On the 24th of April, 1816, he was commissioned post surgeon, and surgeon on June 21st, 1821. He was the first surgeon attached to Fort Adams, and supervised its sanitary arrangements during construction. He remained on duty at Forts Walcott and Adams until his death, September 26th, 1837.

CIVIC CENTER OF NEWPORT

Points of Interest

1. The Stone Mill. In Touro Park.
2. Redwood Library. On Bellevue Avenue. Incorporated 1747. Oldest American library in continuous use. Abraham Redwood, Quaker, gave five hundred pounds to start the building fund. The lot on which the building stands was then known as Bowling Green. Dr. Walter Channing often studied here in his youth.
3. City Hall. Broadway and Spring Street.
4. Newport Historical Society. Touro Street. Seventh Day Baptist Church in rear, built in 1729.
5. First Baptist Church. Spring and Stone Street. Founded by Dr. John Clarke.

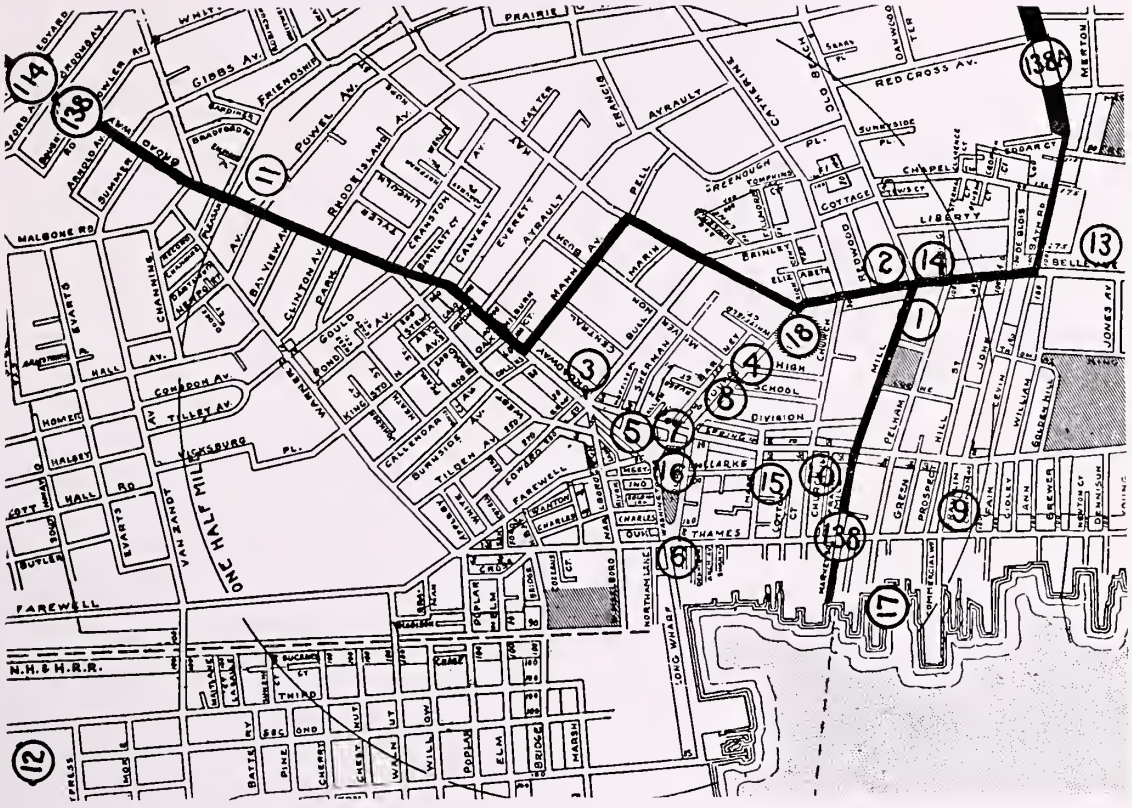
   Vernon House. Clarke Street. Old murals on exhibition.

   Wanton-Lyman-Hazard House. Broadway and Stone Street. Scene of Stamp Act Riot, 1767.

Hotel Viking
Headquarters for 130th Annual Meeting of the Rhode Island Medical Society.

The Newport Hospital. Front on Friendship Street

East



West

6. Old Market House. Thames Street at foot of Washington Square. Occupied by Newport Chamber of Commerce. Call here for Information, Newport City Maps, new booklet "Historic Newport."

   Dr. William Hunter House stood across the street at corner of Thames and Touro Streets. House has been moved to Bridge Street, second house from Washington Street. Dr. Hunter later moved his residence and apothecary shop to the corner of Thames and Mary Streets.

7. Old Colony House 1739-1776, State House 1776-1900. Here Dr. William Hunter gave his lectures on anatomy and surgery in 1755-1756.
8. Synagogue of the Congregation Jeshuat Israel. Touro Street. Oldest synagogue in America.
9. Post Office. Thames and Franklin Street.
10. Trinity Church. Spring and Church Street. Here Dean Berkeley preached. The organ he sent from England. Dr. William Hunter was married and worshipped here. His pew is No. 13. His body lies in the churchyard.
11. Newport Hospital. Broadway, Friendship to Powel Street. Entrance on Friendship Street.
12. U. S. Naval Hospital. From Broadway, turn west on Summer Street. Sign reads "Naval Operating Base, U. S. Naval War College, U. S. Naval Training Station." Follow Van Zandt Avenue across bridge. Turn right on 3rd Street. U. S. S. Constellation moored at Naval Training Station, oldest U. S. warship, built in 1797.
13. Newport Casino.
14. Art Association.
15. Y. M. C. A.
16. County Court House.
17. N. Y. Yacht Club.
18. The Viking Hotel. Headquarters for the 130th. Annual Meeting of the Rhode Island Medical Society.

Route 138A passes by Newport Bathing Beach, beginning of Cliff Walk. St. George's School, Newport Second Beach, Purgatory.

Cliff Walk from Newport Beach to Bailey's Beach, 3½ miles. Several streets lead back from the Walk shortening this distance. At the Newport Beach end, the Walk still shows damage from the 1938 hurricane. The Forty Steps at Narragansett Avenue.

The Ocean Drive. From Washington Square turn south on Thames Street. Right on Wellington Avenue, follow signs along the shore to Bellevue Avenue.

Newport Country Club. Harrison Avenue on Ocean Drive. Apply to Dr. Jacoby for golf privilege.

U. S. NAVAL HOSPITAL, NEWPORT, R. I.

HISTORICAL SKETCH

Joseph A. Biello, Captain (MC) U.S.N.

On April 15, 1913, the Naval Hospital, Newport, with a bed capacity of 150, was placed in commission with a staff of four medical officers, one pharmacist, eleven female nurses, twenty-six hospital corpsmen and thirty-two civil employees. Sixty patients from the old wooden building located at the Naval Training Station were received that day for continuation of treatment. The new building was T-shaped, of tapestry brick on hollow tile, and contained two wings of two wards each with the main section allocated to operating suite, sick officers' quarters, messing facilities, and administrative offices.

The location of the hospital is ideal. The original plot of land was acquired in 1909 and consisted of 12.88 acres which was enlarged by purchase of 4.5 acres in 1915 and by transfer from the U. S. Public Health Service of 10.287 acres May 28, 1937. The reservation is located in the northwestern section of Newport about one mile from the business district, and is convenient to bus transportation. The main hospital overlooks the east bank of Narragansett Bay and commands a delightful view of the entire lower bay and harbor entrance. The grounds have a beautiful front lawn stretching to the sea wall, and dotted with small groves of shade trees. Shrubbery groupings are used to break and modify the severe architectural lines, and concrete roads and sidewalks make for easy access to all parts of the grounds.

Once the hospital was put into operation the citizens of Newport realized its value, both commercially and as a decorative asset to the city.

Following America's entry into the World War in 1917 nine wards with a bed capacity of 390 were hastily constructed and the staff had grown to thirteen medical officers, four pharmacists, forty-eight female nurses, and one hundred ninety six hospital corpsmen, while the patient census had grown from 60 in April 1913, to 423 on December 31, 1917. A permanent brick garage was added as were several temporary structures to house maintenance shops, staff personnel, and messing facilities. As Naval activities in this area grew to meet war conditions the hospital kept pace by expansion of its facilities and even during the decimating influenza of 1918 when more than a thousand patients were under treatment at one time, the hospital staff met the emergency and functioned efficiently.

The post-war period was one of gradual retrenchment until the year 1922 when the patient load had dropped to a daily average of 64. With the passage of legislation authorizing admission of Veterans' Bureau beneficiaries to Naval Hospitals the number of patients increased to 240 in December of 1922. This number fluctuated during the years, conditioned by seasons and total apprentice seamen under instructions at the local Naval Training Station. Groups of temporary buildings scattered about the reservation were either razed or so improved as to make them fit into the general architectural scheme of the entire plant.

The need for additional permanent bed space and expanding clinical and laboratory facilities became pressing, and in July 1932 a new northeast wing was added to the main building. This provided fifty-six more beds, a dental department complete with prosthetic laboratory, a modern roentgenologic section and a basal metabolism room. Again, in November 1939, an additional wing was added, which gave 56 more beds, new quarters for a more complete eye, ear, nose and throat department; and an enlarged bacteriological, clinical and pathological laboratory.

The Naval Hospital, in addition to performing its function of keeping men fit for the rigorous requirements of the Naval service, has always answered the call of distress in the community life of Newport. In 1916, when the German submarine U-53 torpedoed British and Canadian merchant vessels off Block Island, this hospital opened a ward for the women and young children survivors brought to Newport by American destroyers and

kept them housed and fed until arrangements were completed for continuation of their journey by rail to New York. In 1917, despite war time conditions, this hospital allocated three temporary wards and furnished staff personnel to care for local civilians, during a diphtheria epidemic, who could not be accommodated at the Newport City Hospital. Again in the late summer of 1925, when the excursion steamer Mackinack suffered a boiler explosion in the upper harbor this hospital threw open its doors, without regard to regulations or red tape, and within half an hour had received about one hundred thirty maimed and injured.

Official U. S. Navy Photograph

U. S. Naval Hospital. A Typical Ward.

Late in 1939, when war again rode the continent of Europe, the Navy once more began to prepare itself against any eventuality. More recruits were sent to the Training Station, necessitating expansion and new construction. This rapid increase in personnel was reflected in a corresponding increase in the patient load of the hospital, and in April 1940 four temporary wards, to accommodate 120 more patients, were erected on the reservation.

At present the hospital has a total bed capacity of 410, with further expansion contemplated. Its staff consists of fifteen medical officers, nine of whom are members of the Navy Medical Reserve Corps; two dental officers, three pharmacists, nineteen female nurses, one hundred thirty three hospital corpsmen, and sixty-two civilian employees. The present Commanding Officer is Captain Joseph A. Biello (MC) U. S. Navy, and the Executive Officer is Captain John T. Borden (MC) U. S. Navy.

Among the Medical Officers of the Reserve Corps on the staff of the hospital are: Commander William A. Stoops, MC-V(G), U. S. N. R., of Newport; Lieutenant Commander Edward L. Merritt, MC-V(S), U. S. N. R., of Fall River; Lieutenant Commander William N. Hughes, MC-V(S), U. S. N. R., of Providence; and Lieutenant Frederick C. Hanson, MC-V(S), U. S. N. R., of Providence.

The complete list of the staff is attached.

Medical Officers

BIELLO, Joseph A., Captain (MC) USN.
BORDEN, John T., Captain (MC) USN.
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THE STONE MILL

Historians seem to agree that the Old Stone Mill in Newport was built by Colonial Governor Benedict Arnold to grind corn for the early settlers, basing their opinion on the will of Governor Arnold which refers to "the path from my dwelling house, leading to my stone-built wind-mill."

But certainly this is the strangest wind-mill that was ever built or imagined. A great circular structure of stone supported twelve feet above the ground on eight massive stone columns, it stands on the highest point of land in the vicinity. In the wall to the west, with an unobstructed view of Newport Harbor, was the only window, on either side the wall cut away to give the widest possible view of the bay. Opposite the window is a fireplace with the flue leading up through the thick stone wall.

So, here by the fire would sit the miller, so protected on the land side that nothing could distract his attention from the wide panorama of the sea, viewed from the lofty window, and with no practical way for bringing corn into his mill or for taking the meal away.

Eighteenth Century lithograph of the Stone Mill.

Newport Ruin

W. G. Wall Lithograph of Endecott & Swett, N. Y.

"There are those who think it had been a Fortress but still I can never admit this picturesque Ruin has been a Mill."

From the collection of the Newport Historical Society by courtesy of Mr. Herbert O. Brigham

The Stone Mill is twenty-five feet in height, twenty-three feet outside diameter. It is supported on eight arches resting on stone piers ten feet high. Arches of similar construction crown the large window in the west wall and the fireplace opposite. Evidently the other openings in the walls, lacking these arches, are not a part of the original plan. Just above the supporting arches yawn great square mortises which must have held strong floor timbers. There is no reason to doubt that this structure was built for a watch tower, to sight approaching vessels and to signal them with fire or smoke.

Inside the Stone Mill

Fireplace shows construction similar to that of supporting arches. Openings made later have no arches. Mortise for floor timber at top of each pillar.

Who built the tower we do not know. About the year 1000 the Vikings came from Greenland and made a settlement on this shore. In Icelandic literature the region is often referred to as "Wineland the Good." In 1497 John and Sebastian Cabot explored the coast south to Chesapeake Bay. In 1511 the Portugese Cortereal visited this shore. In 1524 the Italian Verrazzano in his ship "Delfina," explored Narragansett Bay. Of these the most likely to have built the tower at Newport are the Vikings, who are known to have made a settlement and to have visited it several times.

The fanciful impression of Longfellow is given in his "Skeleton In Armor."

"Three weeks we westward bore,
And when the storm was o'er,
Cloud-like we saw the shore
Stretching to leeward;
There for my lady's bower
Built I the lofty tower,
Which to this very hour,
Stands looking seaward."

The Norse Discovery of America. Arthur Middleton Reeves. The Norseman Society, 1906.

RHODE ISLAND MEDICAL SOCIETY

Program for the One Hundred and Thirtieth Annual Meeting

Newport, May 28-29, 1941

WEDNESDAY, MAY 28
MORNING SESSION

Newport Hospital
Friendship Street, Newport

10:30

Auditorium at Nurses' Home

Clinic by members of the Staff of Newport Hospital

12:30

Buffet luncheon will be served to those who have signified their intention of attending the above clinic

WEDNESDAY, MAY 28
AFTERNOON SESSION

Hotel Viking
Bellevue Avenue, Newport

2:00

Call to Order

Welcome by the President

Recognition of Delegates from Maine, New Hampshire, Vermont, Massachusetts and Connecticut

Report of the Trustees of the Fiske Fund

Report of the Committee on Necrology

Papers:

1. Intercapillary glomerular selerosis or Diabetes-nephrosis syndrome. A report of cases with review of elinieal and pathological findings
   B. Earl Clarke, M.D.
   Pathologist, Rhode Island Hospital
2. X-ray Localization of the Placenta and the Clinical Application
   Bertram H. Buxton, M.D., and
   Charles Potter, M.D.
   Providence Lying-In Hospital
3. The Management of the Patient with Chronic Leukemia
   William P. Murphy, M.D.
   Associate in Medicine, Harvard Medical School; Senior Associate in Medicine, Peter Bent Brigham Hospital
4. Biographical Sketches:
   1. Dr. William Hunter
      Roland Hammond, M.D.
   2. Dr. Benjamin Waterhouse
      Herbert G. Partridge, M.D.
   3. Bishop Berkeley's Sojourn in Newport
      John E. Donley, M.D.
   4. Dr. Henry Turner of Newport
      Wilfred Pickles, M.D.

WEDNESDAY, MAY 28
EVENING SESSION

Hotel Viking

8:00

Developments in Medicine and Surgery
Frank H. Lahey, M.D.
Chief of Lahey Clinic, Boston; President-elect, American Medical Association

THURSDAY, MAY 29
MORNING SESSION

United States Naval Hospital
Third and Cypress Streets, Newport

10:30

Naval Hospital

Clinics by members of the Staff of the Naval Hospital

Exhibit of Aviation, Submarine and Industrial Methods and Equipment

This demonstration to be a combined presentation of the Naval Hospital, Naval Torpedo Station, Quonset Point and New London Submarine Base.

12:30

Buffet luncheon will be served to those who have signified their intention of attending the above clinics.

THURSDAY, MAY 29
AFTERNOON SESSION

Hotel Viking

2:00

Papers:

1. Paracolon Bacteria and their possible etiological significance in Gastro-Intestinal Disturbances
   Biographical Sketches
   Professor Charles Stewart
   Biological Department, Brown University
2. The Diagnosis and Treatment of Cancer of the Right Colon
   Leland S. McKittrick, M.D.
   Surgeon, Massachusetts General and Deaconess Hospitals; Chief of Staff, Palmer Memorial; Instructor in Surgery, Harvard Medical School
3. Sex Hormones: Clinical Application
   W. O. Thompson, M.D.
   Associate Clinical Professor of Medicine, Rush Medical College of the University of Chicago; Associate Attending Physician, Presbyterian Hospital, Chicago

Address of the President
Lucius C. Kingman, M.D.

Induction of Officers for the ensuing year

THURSDAY, MAY 29
EVENING SESSION

6:30

THE ANNUAL DINNER will be served at the Hotel Viking

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Butler, Maurice
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BUNDLES FOR BRITAIN

As much as we individually might be in sympathy with the "Bundles for Britain" movement, one recent phase of it hardly has our approval.

At several points in the country there has been a movement to collect the samples left by pharmaceutical detail men in physicians' offices and include them in the shipments for British Relief. This is an expensive and uncontrolled way of supplying pharmaceutical products.

Most all of the pharmaceutical manufacturers have individually donated supplies with vitamin capsules and other needed pharmaceutical products to the British Relief at no charge.

The packaging of a sample increases the cost and if these samples are collected and sent to Britain, then the purpose for which they were intended, that is, for the use of physicians, is not accomplished, and the heterogenous material that reaches British Relief probably would have little value. Many samples left physicians would be dangerous if used indiscriminately without the advice of a physician.

In some cases individual City and County Medical Societies have been asked to cooperate with the collection of these samples. It is our opinion that such cooperation should be refused for the obvious reasons stated.

National Gastroenterological Association

At the sixth annual convocation of the National Gastroenterological Association, to be held at the Hotel Commodore, New York City, May 13-16, 1941, Dr. Frank A. Cummings, President of the Rhode Island Chapter, will be Co-chairman at the session on Thursday, May 15. Dr. Frederic V. Hussey, Surgeon-in-Chief, Memorial Hospital, Pawtucket, R. I., will speak on the subject "Some Phases of Common Duct Surgery." Discussion will be opened by Dr. Eliot A. Shaw.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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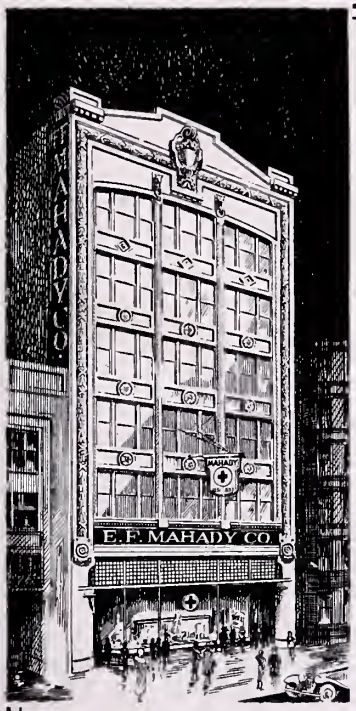

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*Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
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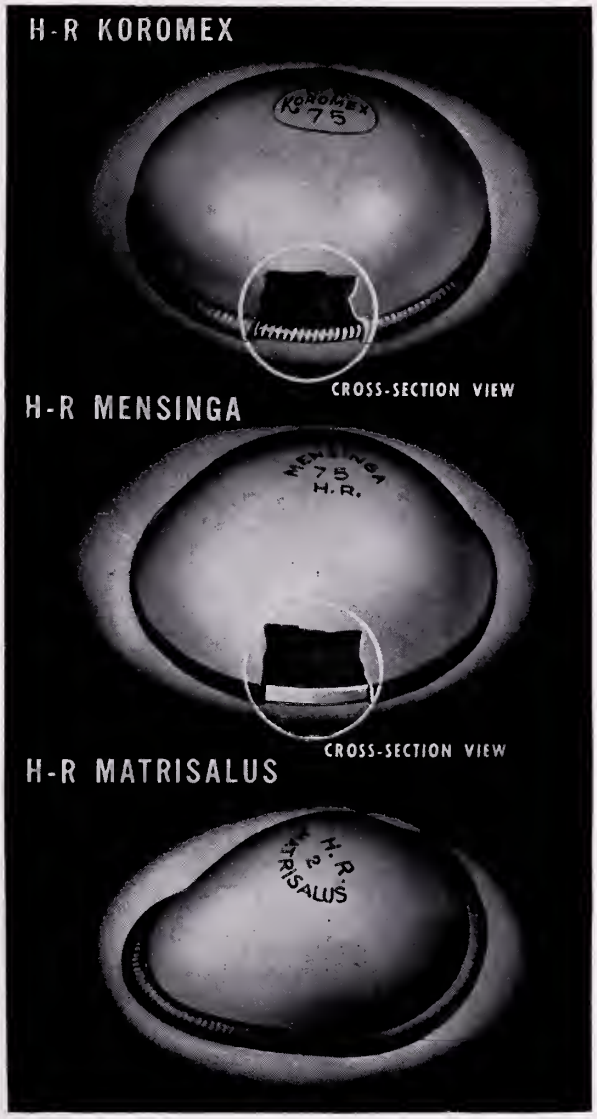

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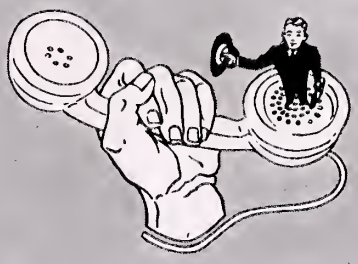

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THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV JUNE, 1941 Number 6

THE N.Y. ACADEMY OF MEDICINE
JUN 1 1941

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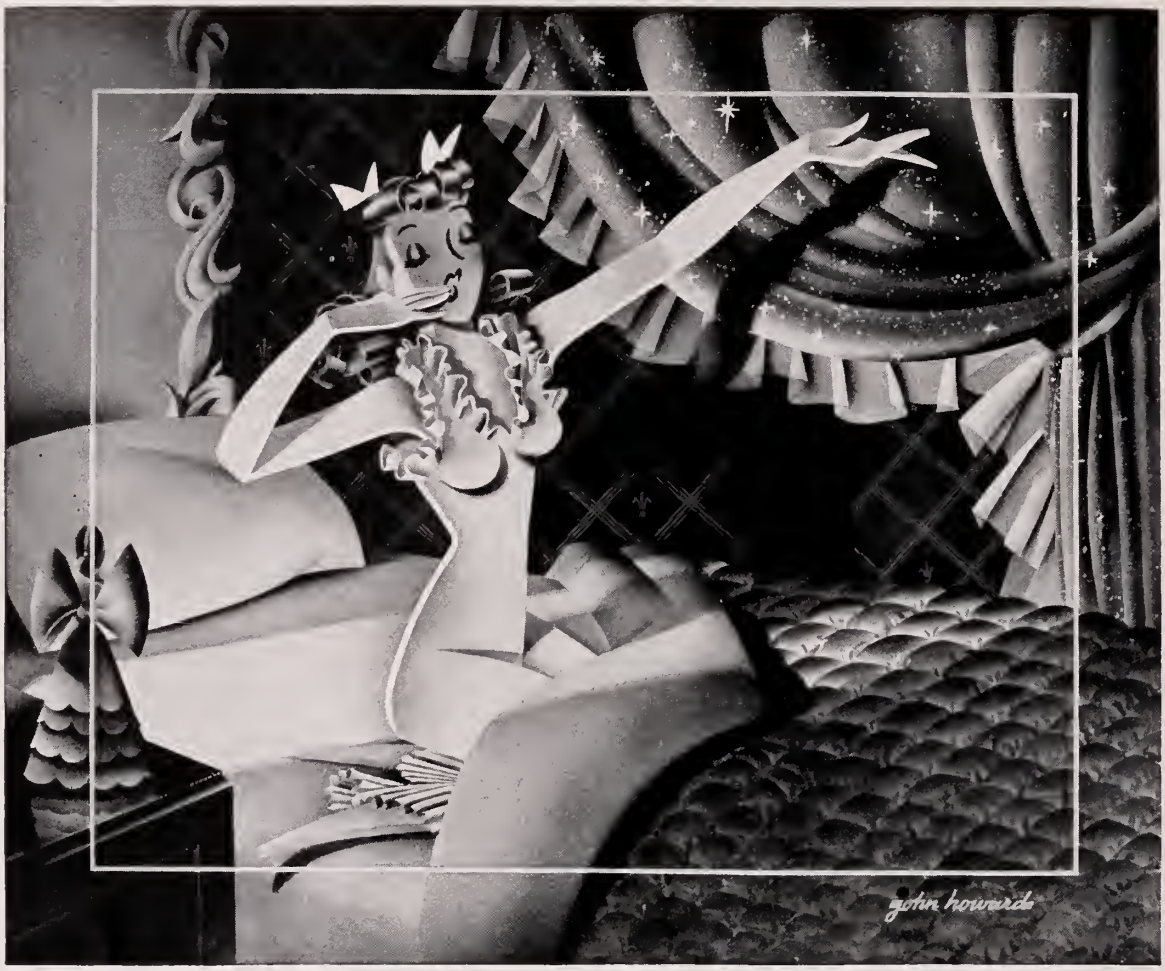

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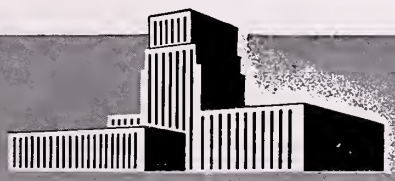

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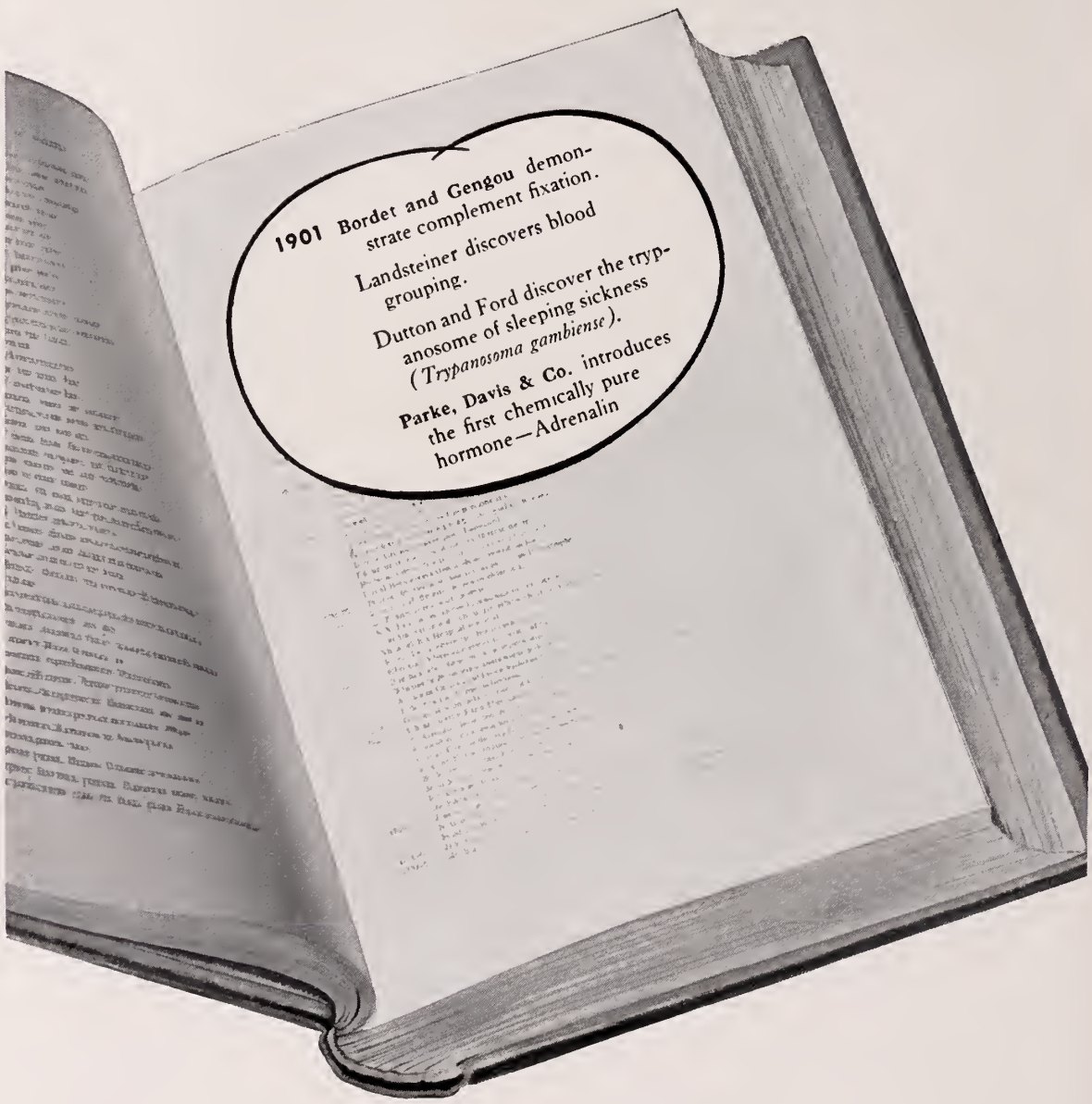
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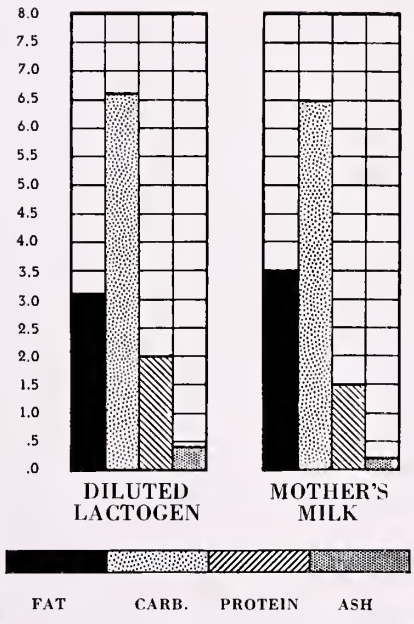

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Clinical Pediatrics, p. 156.

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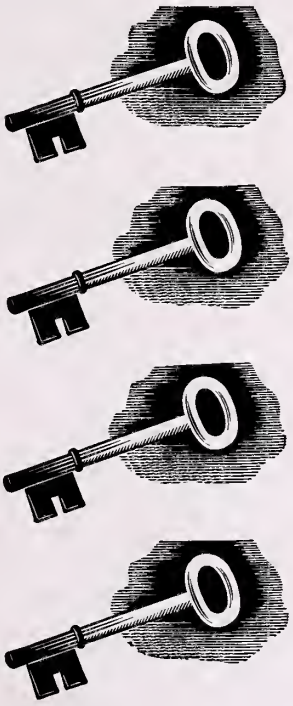

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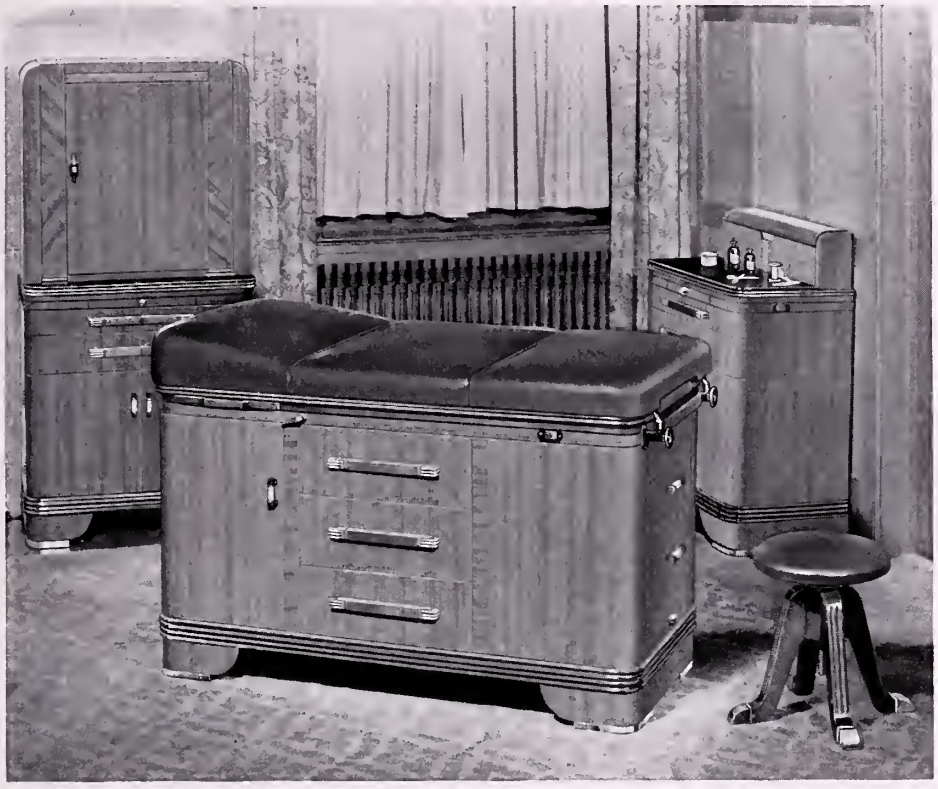

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THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV JUNE, 1941 Number 6

A GENERATION OF SURGERY

Lucius C. Kingman, M.D.
76 Waterman Street, Providence, R. I.

In this time of world upheaval when we all cannot help but be depressed and discouraged that such things can happen between peoples we thought were civilized, it is well for us to take stock of our profession. For, by so doing, we may be able to keep our heads level and our souls more serene. Let us not dwell on our shortcomings, our failures, that we have left undone those things we should have done. These things are with us always and we need no reminder. Rather let us review our experience and impressions of the past generation in surgery. For, thereby, we may well obtain comfort in the belief that the efforts of the profession have been worth while.

As a House Officer over thirty-five years ago I dreaded to see a gall-bladder case come to operation because I knew we were in for trouble, for there would be a hard post-operative course and the mortality was high. I finished my hospital training with rather a confused idea as to when a gall-bladder was operable. In contrast, with the few exceptions they are now all operable. Wherein lies the difference between a gall-bladder operation of 1905 and 1941? Trying to formulate this has led to a review of the practice of surgery based on my personal impressions and experiences of the past thirty-seven years. A review should be of value in showing not only what have been the trends forward but as a check to make sure that valuable methods and knowledge have not been lost in the press of the new. Displacement of the old by the new is not always an advance especially if the latter is not thoroughly proven.

The foundations of Surgery—anatomy, physiology, pathology and bacteriology—were well systematized at the beginning of this era. Knowledge has been added, the biggest change being in physiology. Anatomy I think was better known by the surgeon then than now. The rational of many surgical procedures empirically applied and found useful has been established after the fact, due to the advancement in physiology and pathology. Examples of this are in physiology, the pre- and post-operative use of laxatives; in pathology, the better understanding of new growths. There has been a gradual increase in the scientific point of view, going from the general to the particular instead of the reverse, more proper evaluation of statistics, observations to find the truth not to prove a theory or assumption.

In the art of practice, the handling of patients, we have seen a change I think for the better. Medical knowledge has increased amongst the laity, perhaps accounted for by a general increase in education, more reliable publications on medical subjects for the layman who formerly had only the book on Family Medicine, more medical lectures and now radio talks. These have been fostered by the profession with mutual advantage. However, some of it has been forced on the profession by the layman and this has brought about the realization by the profession that it must lead in such matters. The profession is no longer on a pedestal. Our infallibility and inscrutable dignity have been debunked. We no longer wear the high hat and frock coat. The public receives the explanations which it expects and should get. Personal ties between the doctor and patient have been loosened particularly in the specialties. The surgeon is called in for the particular job and is not the family doctor. The larger the community the more impersonal the relationship. In surgery this is not entirely a loss, for fairer judgment is obtained when unswayed by personal feeling.

Better co-operation exists between doctors, between different departments in surgery and between the medical man and the surgeon. Of course, each surgeon thinks that if he would spend a few hours brushing up on medicine he could do a better

Address of the President, delivered at the one hundred and thirtieth Annual Meeting of the Rhode Island Medical Society, at Newport, May 28-29, 1941.

job than the medical man and the medical man knows that all that prevents his being a brilliant surgeon is lack of time to develop his operative technic. However, we are all more willing to grant the other fellow his rights. Perhaps this has come about through the realization of the advance of medical knowledge and the inability of any one man to acquire anything but a fraction of it.

This realization has led to the splitting of surgery into more different branches than previously existed. Thirty-five years ago there were the specialties of eye, ear, nose and throat, gynecology, and these were somewhat overlapped by general surgery. Orthopedics was just beginning to separate. The general surgeon was fumbling with urology and trying to use the cystoscope. When this use was mastered we had a new specialty. Neurological surgery was not split off and fractures were all done or done up by the general surgeon. Radiology chiefly required a technician to run the Crookes tube. Besides the development of these special and seemingly permanent lines, there have been temporary split-offs as with thyroid surgery, which have returned to the field of general surgery. These temporary split-offs have been of advantage for the rapid development of a special field which, when developed, could properly be returned to the general field. At present, the latest is the development of chest surgery. It is too recent to know whether this will be a permanent budding off. Industrial surgery closely tied in with industrial medicine and hygiene is now a definite specialty. The dangers seen in these split-offs are those inherent in any specialization—too narrow a viewpoint, loss of sight of the patient as a whole. In surgical specialization there is the added danger of insufficient general grounding, as seen for example in that urologist who, from the time of leaving medical school, has received training only in urology. As an example of the value of division, the separation of fracture cases from general surgery has been a natural development. The chief contributing factors to this separation have been a realization by the surgeon that on a busy hospital service the fractures could not and did not receive the required attention, that the surgeon was not trained or equipped for proper after-care, that the surgery of the soft parts is quite different from that of the hard parts. Advances in the treatment of fractures are pronounced and are a direct result of specialization. It has proven itself from the start.

A striking change has been that in hospital facilities especially for private patients. Up to twenty-five years ago at least half our operations were performed in the home. At the Massachusetts General Hospital there were no private patients. Here in Providence at the Rhode Island Hospital we had Ward F and a few side rooms. There was the Parade Street Hospital and other makeshifts. Now the day of the medical boarding house is past. The private hospital has nearly disappeared. A hospital can furnish proper facilities even for private patients only if endowed or tax supported, quite analogous to education. Not only is there the development of the large hospitals but also the establishment of the smaller community hospital. And on the whole a better grade of surgery is being done in these small hospitals than was done in the large centres thirty-five years ago.

The rise of clinics has occurred in this time. The Mayos were just becoming known at the beginning of the era. The full-time medical man in the hospital and school was unheard of in America. The special hospital clinic such as the Tumor Clinic, composed of men of different departments, is a natural, though recent, development due to the realization of the need of combining the knowledge of many special branches.

As to surgical education:—The poor medical school has nearly disappeared—to be replaced by the osteopath. There is a closer tie-in between the school and hospital with an earlier and more complete contact between student and patient. Didactic lectures are out of the curriculum. We had them in my school days and I should not like to have missed some of them. We still have lectures in the Medical Society in the form of "papers". The medical student is treated more as a post-graduate student. Hospital service is now practically a pre-requisite for practice. Residencies in surgery formerly were established only at Johns Hopkins, now they are in more and more hospitals. Realization by the hospital interne of this need for further training is encouraging and significant and the number of residencies should be increased. Many post-graduate schools, courses and fellowships have been established not only as refresher courses but for adequate instruction along special lines as preparation for practice and for research. There has been a falling-off in the opportunities for private assistants which is a loss both to the potential assistant and to the surgeon. It leads to a lack of good team

work. The occasional assistant or rotating interne can only be of the second class—one who does as told. A first class assistant is doing the operation mentally one step ahead of the surgeon.

To come to some of the more detailed changes and advances.

First; as to diagnosis and diagnostic methods. We make better diagnoses in most instances but there is a question whether we are as good diagnosticians. Has our power of diagnosis kept pace with the advancement of medical knowledge? The advance in diagnostic aids—mechanical and laboratory methods—often blunts our powers of observation and deduction. As an example—fracture cases. There we often find ourselves not looking for deformity, abnormal mobility, crepitus but waiting for the X-ray. And the latter has been known to be incorrectly negative. Blind acceptance of laboratory results without cerebration is more to be guarded against than formerly because there are more such aids which may confuse us, especially the negative results of such examinations. An autopsy may not show why a patient died. Any laboratory method is still dependent on the eye and the brain back of it.

Of the diagnostic aids developed in this generation, X-ray ranks first. We had it at the beginning for long bone fractures and foreign bodies. I cannot remember a skull plate, a chest plate nor a plate of bone disease in my hospital days. Now we have the X-ray diagnostic work on the G. I. tract, G. U. tract, biliary tract, chest, the spine and skull inside and out, the osseous system. We couldn't do modern surgery without it even going back to the method of frequent exploratory operations. Here the gall bladder operation comes in again as an example. Relief, though as a left-over from early experience, is still felt when the exploring finger feels the gall stones, even though the stones have been visualized on the X-ray plate previous to operation. We could not formerly spot the kinked ureter, the growth in the lung and so on. All honor to the Martyrs who developed this branch of medicine.

The improvement in electric lighted instruments has been a grand addition. Formerly the head mirror was the chief source of light. The self-illuminated cystoscope was just beginning. Now add the esophagoscope, gastroscope, bronchoscope, pleuroscope, peritoneoscope.

Discussion was just beginning thirty-five years ago as to whether a blood pressure reading could be accurate without a cannula in the vein. When this was settled we took the reading by feeling the pulse, —no auscultation and no diastolic reading. There was no basal metabolism machine, no electrocardiograph, no spinal fluid pressure readings, no brain wave readings. It is interesting to note that the clinical thermometer had been in general use only about thirty years previous to the beginning of this era.

In the laboratory we made many wonderful diagnoses as to the state of the kidney by urinalysis but knew no measure of its function. We measured the urea in the urine and gained no useful knowledge thereby. We had red and white blood counts but no differential of the white cells except in leukemia. Stained specimens were for nucleated reds and malaria. Widal reaction was the only serology. We had no blood cultures from the living, no blood chemistry, no phthalein test. In pathology frozen section was in use. On the whole, surgical pathology was good and much was learned from the fresh specimen. We did not have the good differentiation of today, which is due to increase in knowledge; as for instance in lymphoblastoma and the other malignant new growths.

Some of the diseases that we had to combat have nearly disappeared—tuberculosis of glands, bones and peritoneum, the typhoid perforation, anthrax. Except for some rare infections we have added few new diseases but have seen the separation into clinical entities of pathological processes formerly grouped en masse or unrecognized. We have added new fields—nervous system, esophagus, stomach, chest and lung, blood vessels. We were taught to think in terms of pathology but not much in terms of physiology. We were getting away from thinking in terms of symptoms but such things as organic functional capacity, water balance, vitamins had not entered our consciousness.

We have as new adjuvants to surgery insulin, liver extract, vitamins, novocain, barbiturates, arsenicals and bismuth, chemo-therapy, radiation therapy, a better understanding of the action of many drugs. Intravenous therapy really began with the use of salvarsan during this era. We used to cut down on a vein and put in a cannula usually as part of the terminal rites in a moribund patient. Our saline was probably as fatal then as now when not well prepared. Subcutaneous salt solution was

used rather vaguely. Blood transfusion had been done and gotten away with by crude methods of only historic interest. In our era it has developed through the various stages from direct vessel to vessel methods, by various cannulae and sutures, to the present state of blood banks, plasma banks, dried plasma. There was no blood typing.

We purged our patients before and after operation lacking all sense both physiological and common. We took out drains and put them back unnecessarily and detrimentally. Our patients suffered post-operative torments from thirst and backache. They died of vomiting and dilated stomachs. At times some didn't get the needful morphia. Some patients were prayed with before operation—perhaps there was more need of it. Now we endeavor to assure our patients that an operation is to insure continuation in this world. We didn't get the needful water into them either before or after operation. Glucose was the terrible stuff put in cheap candies. And who had heard of blood proteins? We had no Levine tube.

In accident cases the most important change has been the fuller realization that these cases should not be treated as to wounds and fractures except to check hemorrhage and immobilize the fractures until the patient as a whole has been treated. We had a shock table in the accident room but often did too much too immediately. We have learned the difference between contaminated and infected wounds and the time limit involved. Debridement has been developed. We have better treatment of shock, we have gas bacillus antitoxin, we have chemo-therapy. We have less faith in antiseptics and more in soap and water. In the treatment of sepsis the most marked advance has been the differentiation between the action of streptococci and staphylococci and the use of radiation and chemotherapy. The foundation knowledge of proper drainage was nearly as well known then as now. Hypertonic solutions had been empirically used but not on a scientific basis until World War I. We had no vaccines. Antiseptics flourished along with the undismayed bacteria. Effect of the chemical disinfectants on the normal tissues was not realized.

What new operations do we do now aside from perhaps doing certain things better? We take out the stomach whole or in part. We take out the gall bladder and we anastomose it to the stomach or duodenum. We invade the pancreas. We remove the spleen for disease as well as injury. The intestinal tract is more or less removed. We invade the brain and the nervous systems. In the chest we take out lungs in whole or part, we collapse the lung; the heart is having various things done to it. We inject varicosities, the toxic thyroid receives due consideration before operation. Urology is on a rational basis.

A few things we don't do. We don't do thyroidectomies and hysterectomies to cure nervous and mental disorders. We don't dissect or strip out varicose veins. We rarely operate on gummata or gastric crises. And seldom take out the only functioning kidney. We don't operate on stomachs that the medical man can keep in order. We don't cure many more cases of appenditicis.

In anesthesia has the improvement been in anesthetic agents or in knowledge and skill of administration? I think the latter. The greatest advances I might venture to put as maintenance of oxygen level, pre-operative medication, novocaine and similar agents, local and spinal.

I doubt if we are as good craftsmen as our forefathers. Who of us can do a thigh amputation with the speed and finish of the old masters? The changes in technic have been chiefly towards simplification. In preparation of the hands a real scrub with soap and water without reliance on chemicals is the rule. Our nails are no longer black from bichloride. Preparation of the skin in field of operation is simpler and seems as efficacious. Use of caps and masks is new in this era. Gowns are better and the elbow sleeve is no longer seen. Cotton gloves are gone. Rubber gloves are better and of universal use. Thirty-five years ago the bare hand was still in use. Draping is better. Instruments have not changed much, but they are poorer in quality except for a few makes. New tools, of course, have been developed to meet new operative methods and locations—i.e. chest work and brain work. Electric cutting and coagulation are new, and we have the electric cautery in place of the Paquelin. We use more standard layouts of tools and needles, fewer special tools. The appendix crusher and tucker are out. The many weird retractors and specula have vanished and the great variety of needles. I have seen no new needle holder for a decade. There used to be one every six months. We use more delicate clamps. Gone are the Murphy buttons and Harrington rings and other aids to intestinal anastomosis. We are better sempstresses though the time saving stomach clip

machine has been developed. Technic goes in waves. There is always a yen for something new without reasoning whether it is better. Michel clips which I have seen used for over thirty-five years are still hailed as a new discovery. Catgut is no longer home cured much to the safety of the patients. We had tubed catgut forty years ago—St. John Leavens. We are again on the upwave in the use of silk. The detachable blade knife has driven out the old scalpel. This is a real loss for the new knife has not the balance that makes for good dissection. But it was very difficult to obtain a proper edge on the old knife. We respect our tissues more. Operating is more delicate. Mass ligation is out. Patients are not lifted off the table by retractors. Very little surgery is done against the clock. Gentle surgery and careful hemostasis have proven in most cases more important than time. However, there may be a loss through this disregard of time. Habits of dawdling and waste motion may be established.

So why is surgery safer? It is still hard to definitely state. We operate on more desperate risks, operability of cases has risen, we have more old people. We are not better experienced than some of the famous oldsters but we, perhaps, know our way around a little better. We are not better craftsmen. How many of us, if we had to pioneer as the inventors of surgery did, would succeed? We may put down these factors as at least partly responsible for the improvement;—understanding of physiology, understanding of pathology, improved diagnosis due to better methods and knowledge, judgment of time to operate, pre-operative preparation, better anesthesia, increased technical knowledge, post-operative care, adjuvants such as insulin, radiation, chemo-therapy, mental attitude of patients, hospital facilities.

Whither may we be tending? This may be wishful thinking—away from the occasional operator to the surgeon of long training. Add to this opportunities for this training—more teaching in the extra mural institution, better co-operation in the use of special knowledge and skill, better scientific viewpoint, better physiological and pathological knowledge, the development of chemo-therapy. All fields of surgery seem to be covered but many crudely.

I am of the belief that this era reviewed has but laid part of the ground work for what will be a most rapid advance in our science and art, both in surgery and medicine.

PANEL DISCUSSION ON PREVENTIVE INOCULATION

Henry E. Utter, M.D., Chairman

Dr. Utter:—This evening's program is to be devoted to the subject of preventive inoculations. Smallpox vaccination has for many years been accepted as a means of preventing this disease. This is such a well established procedure that it will not be included in this program.

Typhoid inoculations have proven their efficacy during the past thirty-five years. It has been agreed upon by the members of this panel that parents whose children are intending to travel in this country or abroad or those who attend summer camps which permit their campers to take extended trips away from the main camp, should be advised of the value of this means of preventing typhoid fever.

Twenty-five years have elapsed since diphtheria has become one of the preventable diseases and since the end of 1933 whooping cough has joined the list of those diseases which may be controlled or at least partially controlled by preventive inoculations. Tetanus has more recently entered the group of preventable conditions. We have included measles in the discussion owing to the fact that we are now able to attenuate the potency of this virus.

Presented before the Providence Medical Association, May 6, 1940.

TETANUS

Henry E. Utter, M.D.
122 Waterman Street, Providence

Preceding the days of immunization against diphtheria when we used diphtheria antitoxin we were always confronted with the possibility of serum sickness. Today when we immunize against diphtheria we not only eliminate the disease but also we do away with the necessity of giving antitoxin with its resultant allergic manifestations.

Until a method of immunizing against tetanus was perfected dangers of severe reactions due to tetanus antitoxin gave us much concern. It is un-

necessary to take up the symptoms of serum sickness. We are all unhappily familiar with the dangers from the use of tetanus antitoxin.

Tetanus is not a common disease although there have been some thousand or more cases reported in this country annually. It would almost seem that inoculation against a disease of such a low incidence was superfluous but the fact remains that the more we learn of allergy, its increasing frequency as well as our advancing knowledge in its recognition, the more we appreciate the importance of avoiding the sensitization of our patients to horse serum or other animal sera. So, in the instance of tetanus, we are inoculating against this disease primarily to eliminate the use of horse serum; of course we also eliminate the disease itself.

Work has been carried out by Ramon and many others in the past fourteen years to produce the satisfactory tetanus toxoid, free from horse serum, which we now employ in the prevention of this disease.

Plain toxoid was used at first and as with diphtheria in three doses. This procedure has now been replaced by the use of two doses of the alum precipitated tetanus toxoid in combination with diphtheria toxoid. Persons who have been previously immunized against diphtheria may be given tetanus toxoid alum precipitated in two doses. Infants and children who have not been protected from diphtheria should be given two doses of the combined diphtheria and tetanus toxoid. The interval between doses should be from six weeks to three months.

Following the first dose or the primary stimulus the antitoxin level in the blood is raised only to 0.01 or 0.04 unit per cc of blood. After the second dose the antitoxin titer is raised, within one week, to as low as 0.1 a unit in some individuals to as high as four to six full units per cc of serum in others. Now it is found that although the amount of antitoxin does decrease rapidly after some weeks that there is maintained a minimum basic level of about 0.1 unit. If after two or more years another dose is given the antitoxin level will rise twenty fold or more within two or three days. The use of combined toxoid has decided advantage over the use of tetanus toxoid alone in that the antigen of one seems to stimulate the other and the resultant diphtheria and tetanus antitoxin produced in the blood is greater than when either is given alone.

We have no test such as the Schick Test in diphtheria to determine the immunity against tetanus. Several observers have taken as the criterion of the amount of antitoxin necessary for protection that which is produced by the injection of 1500 units of tetanus antitoxin. This varies from 0.1 to 0.25 units per cc of blood serum.

As a result of this observation we accept the protective level produced by two doses of tetanus toxoid as sufficient to eliminate the possibility of tetanus. Two doses of tetanus toxoid will maintain an antitoxin level equivalent to that produced by the 1500 units of tetanus antitoxin. If, however, the level does fall a dose of tetanus toxoid given in the event of a wound will stimulate the antitoxin to rise well above the necessary amount for protection against tetanus. It is also believed that the presence of the tetanus bacillus in a wound would be sufficient stimulus without the use of the extra dose of toxoid. However, in the light of present knowledge we will be wiser to give a third dose of toxoid if a person has a wound two or three years after the initial immunizing process.

It must be remembered that the first dose of tetanus toxoid does not sufficiently protect an individual and in case of a wound of questionable nature before the second dose has been administered tetanus antitoxin should be used. It is perfectly possible that the second dose of tetanus toxoid given at this time might raise the antitoxin titer sufficiently to protect but we might feel a greater degree of security if the second dose has not been administered, in using tetanus antitoxin. However, after the second dose has been administered there is no longer any necessity for the use of antitoxin.

There is in children little or no reaction to either the tetanus or combined toxoid. The parents should, however, be warned that the presence of the hard nodule under the skin should cause no concern. In older patients there may be some local reaction with swelling and soreness but there is rarely a constitutional reaction of any kind. Some allergic manifestations have been reported from proteose used in the preparation of toxoid. Physicians might feel justified because of this in doing an intradermal test before giving the second dose.

The use of tetanus toxoid produces a lasting immunity while the use of tetanus antitoxin gives such a short period of protection that cases have been reported where tetanus has supervened owing

to the persistence of tetanus bacillus in a wound several weeks after the original injury and injection of tetanus antitoxin. Another interesting fact has been brought out recently in a studied series of tetanus that in many there was only the history of a punctured wound without there being any external evidence of a wound. This stresses the importance of the danger of the simplest type of such a wound being the cause of tetanus.

Several groups of individuals should be protected against tetanus. Children who are the subjects of allergy should most certainly be immunized. Children who take lessons in horseback riding or attend summer camps where this recreation is a feature should be immunized. Industrial workers who are subjected to injury and soldiers particularly those in the cavalry should be protected. It is a simple matter to protect all children by use of combined toxoid.

IMMUNIZATION AGAINST SCARLET FEVER

William P. Buffum, M.D.
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Immunity to scarlet fever is determined by the Dick test. This is done by injecting intracutaneously an accurately measured amount of toxin. The test must be read between 20 and 24 hours after the injection. Any redness, however faint, that is more than a centimeter in diameter means a positive test. This test is probably extremely accurate, not 100% but nearly so. The objection has been raised that the test shows immunity to the toxin and not to the streptococcus itself. Experience has shown that from a practical standpoint the immunity is good for both. Probably the situation is parallel to that of diphtheria where immunity to the toxin makes the tissue of the throat a very poor culture medium for the bacteria.

Persons who give a positive test can be immunized. This is done by injecting 5 graduated doses of toxin at weekly intervals. Experience has shown that the results are not quite but nearly 100% successful.

Several objections have been made to this procedure. It has been claimed that the immunity is to the toxin alone and not to the streptococci, but this objection is not valid. Another criticism is that the reactions are too severe. The common reactions consist of sore arm, fever, vomiting and joint pains, all these may be very severe indeed. However, these common reactions can be avoided by regulating the size of the injection. The first injection can be regulated by the size of the Dick test and the following injections regulated by the size or the severity of the preceding one. A sufficient number of injections must be given so that the total dosage of toxin is 115,000 skin test doses. This means that as many as 10 or 12 injections may be required which is perfectly feasible in institutional work but difficult in private practice. Allergic reactions are always possible because of the protein and protein derivatives in the broth of the culture medium. Probably the only important danger is that which occurs when the injections are given to persons who have had some rheumatic infection. In this case the rheumatic infection may be activated with serious results.

Active immunization against scarlet fever, as I have described it, is useful in institutions. The staff of a hospital where there is exposure to acute illness, and especially in a contagious disease hospital, should be immunized. Also this immunization is helpful in an orphanage or institution for children where protecting the children may be of considerable benefit to the children themselves and the institution. In private practice, except under special circumstances, this immunization is hardly worth while.

Passive immunization can be produced by the injection of commercial antitoxin or human convalescent serum. This passive immunity, which lasts only a few weeks, is often very helpful in epidemics in institutions.

WHOOPING COUGH

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The seriousness of the whooping cough problem can be best appreciated by the 1928 U. S. Public Health Service Report which stated that in the registration area of the U. S., 6,000 children under 5 years died of whooping cough. It exceeds

deaths from diphtheria, scarlet fever, measles, and tuberculosis and exceeds the number of deaths from measles and scarlet fever combined. No other common disease of early childhood varies as much in duration and severity.

Pertussis prophylaxis is a very controversial subject and has been debated considerably and at great length in the past six years. Disagreement, though not as general as several years ago, still is present. There is a tremendous amount of important evidence in its favor, but inasmuch as some failures do occur, it is up to us to weigh the evidence and decide not so much whether it is a perfect procedure, but rather whether it is a worthwhile procedure to the majority of our patients.

Because biological and serological tests are either not available or not too practical we must depend upon statistics for an evaluation of the problem.

The use of Pertussis vaccine in prevention of whooping cough was given its greatest stimulus by the report of Sauer in 1933 on a group of 500 children followed over a period of 5 years; at that time none of the exposed group had contracted whooping cough. In a later report, 1935, a summary of his results together with reports of 74 physicians in 24 states using Sauer vaccine showed protection in 92%.

The Grand Rapids experiment (1932-1937) consisted of 4,000 cases. Of 2,000 vaccinated cases 13½% of the exposed children developed whooping cough. In the non-vaccinated group 75% of the exposed children developed whooping cough. In another experiment, Kendrick and Eldering reported on 2,300 cases, half of whom were controls. In the vaccinated group 118 children were exposed, and 15 cases of whooping cough developed, or 11.8%. In the non-vaccinated group 149 children were exposed, with 111 cases of whooping cough, or 74.6%.

From 1935 to 1939 inclusive, Sauer reports, in a personal communication on the study of 2,616 children, only 9 failures. This group consists of a series immunized by private physicians; another series conducted by the Evanston Health Department Whooping Cough Clinic; and a series conducted at a large Chicago orphanage. Of this group of 1,122 vaccinated by the Health Department there were 128 known exposures with 6 failures. At the same time there were reported 290 cases of whooping cough in Evanston.

The reports of Park, Daughtry-Denmark, Quillian, Ravenel and others most all indicated the incidence of pertussis after exposure about 6 times greater in the non-vaccinated group than the vaccinated.

At the 1938 Academy of Pediatrics meeting in California, Chairman Faber responded to the question "Has not the tone of opinion regarding the effectiveness of prophylaxis changed in the last two years?" with the answer that there was a decided change in favor of the vaccine. Some failures will result, but it now appears that 85 to 95% will be protected for at least 5 to 8 years, and the failures will have mild attacks. As a matter of fact, these results are nearly as good as with diphtheria prophylaxis.

No vaccine can be 100% perfect when the disease itself does not offer a complete immunity in many instances, viz. the occurrence of whooping cough in parents who have had the disease in childhood.

The Sauer vaccine is a suspension of freshly isolated strains of Phase 1 Hemophilus Pertussis Baccili grown on human blood. There are several other preparations grown on sheep blood medium or modified somewhat. They are all prepared, however, to contain 10 billion organisms per cc. In the last two years Sauer has been using a double strength preparation containing 20 billion organisms per cc.

It is interesting to note that the vaccine influences the blood picture in the same way that an attack of whooping cough does, viz. leukocytosis and lymphocytosis. The double strength seems to produce the more typical blood counts.

Dosage of Sauer Vaccine. Park, in 1935, reported results of study and concluded that the efficacy of prophylaxis depends primarily on sufficient dosage. Sauer makes the same statement. The higher the dosage, the better the protection. A dosage under 40 billion gives very little immunity. Sauer recommends a total of 100 to 120 billion organisms in divided doses given at intervals of three weeks. The dosage has been divided into three or four doses. I have been in the habit of dividing the doses in 0.5, 1.0, 1.5 and 2.0 cc. at two to three week intervals. It seems that Dr. Kendrick at Grand Rapids has been using a similar division of dosage with satisfactory results. Sauer has been giving three doses of the double strength—1.0, 2.0 and 2.0 cc, or in older children—1.0, 2.0 and 3.0 cc.

Park in 1935, and later Kristensen and Larsen in complement fixation studies showed highest complement fixation titres in the first two weeks after injection. In the past two years Sauer has performed several hundred pertussis complement fixation tests before and after Pertussis vaccine injections at the Evanston Pertussis Prevention Clinic and at a large Chicago orphanage. He finds the highest complement fixation with the double strength vaccine given at three week intervals.

Following the discussion by the members of the panel, the chairman offered the following summary.

Tetanus:—

That all allergic children should be inoculated.
That all industrial workers should be protected.
That combined toxoid should be given to all little children.
That tetanus toxoid may be given to those previously protected from diphtheria.
That none of us have seen a reaction of any kind.

Scarlet Fever:—

That the Dick Test should be read within 20-24 hours.
That any degree of redness means a positive test.
That the chief use for scarlet fever toxin is to prevent the spread of disease in institutions.
That upon the appearance of a cycle of severe scarlet fever preventive measures should be carried out more generally.

Measles:—

That convalescent serum is the most satisfactory method of modifying measles.
That there is no reaction following the use of the serum.
That Placental extract is the next most effective means of modifying measles.
That 2 cc should be given to children under five or six years of age and 3 or 4 cc may be given to children above five or six years of age.
That the earlier in the period of incubation the serum is given the more effective the results.

Whooping Cough:—

That the Sauer vaccine is the most valuable to use in preventing whooping cough.
That children should be inoculated in the second six months of the first year.
That there is no objection to giving the whooping cough vaccine as early as three months if the parent or physician deem it advisable.
That immunity is somewhat dependent upon the size of the dose: infants should be given the minimum of 100 billion and other children 120 billion.

Diphtheria:—

That nine months of age is the time to start the procedure but there is no objection to the inoculations being given as early as six months.
That two doses of combined diphtheria and tetanus toxoid, or three doses of plain toxoid-diphtheria, or two doses of diphtheria alum precipitated toxoid provide ample protection throughout childhood against diphtheria.
That the use of combined toxoid at present seems to be the method of choice.
That the Schick Test should be done six or eight months after the completion of the course of inoculations.

In the panel discussion on "Immunization" Dr. Harold G. Calder spoke on "Measles" and Dr. Earl F. Kelly on "Diphtheria." Dr. Calder's and Dr. Kelly's papers will appear in the next issue of the JOURNAL.

BENJAMIN RUSH

From the Address on Medicine by William Pepper, M. D., Newport, R. I., June 1899:

Occasion waits for no man. I am afraid that in our day of refined diagnosis it not rarely happens that the chance of effective interference in acute disease is lost while we examine the secretions and record the temperature and search the blood.

Sydenham wisely said: "I well know that the chance of a patient's death or recovery depends chiefly, if not wholly, upon the treatment of the first few days."

Once more, the statistical method, which has done such good service in checking perturbative treatment and in determining the natural history of disease, was unknown in the days of Rush. It would have been impossible, with the faulty diagnosis of that time. For indeed we are learning, that many of the conclusions based upon it during the past fifty years are inconclusive in the light of the more exact differential diagnosis of today. We shall never again bleed for the name of a disease. Neither Sydenham nor Rush did that, though their less wise imitators did.

The Journal A. M. A. XIV: 593, April 26, 1890.

FREDERIC VINAL HUSSEY, M.D.

President of the Rhode Island Medical Society

1941-1942

THE RHODE ISLAND MEDICAL JOURNAL
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TERMINOLOGY OF TUMORS

The increased interest in cancer has served to emphasize the vagaries of oncological terminology. While the busy practicing physician will be able to interpret for himself the names of tumors that he hears or reads of he may be "hard put to it" when asked to explain these terms to patients or other laymen. It seems desirable, then, to reduce the naming of tumors to a simple system or formula.

The names applied to most physical objects are based upon morphology. Thus, in the animal kingdom, we distinguish between a horse and a dog largely on the basis of form and structure. The same is true of the naming of tumors, except that here we utilize the morphology of the cells which make up the tumor, visible of course only with the aid of the microscope. Since tumor cells are derived from, and resemble the cells of normal tissues, we name them by adding syllables or suffixes to the names of the corresponding normal tissues. There are fifteen different kinds of cells in the body (some histologists say seventeen). We may therefore have thirty names for tumors, one for a benign and one for a malignant tumor corresponding to each normal type of cell. All additional names are either synonyms or subdivisions of these.

Normal body tissues are divided into two main divisions, (1) connective tissues and (2) epithelial tissues. Benign tumors of connective tissue are named by adding the suffix "oma" to the names of the normal tissues. Thus, a benign tumor of fibrous connective tissue is called a "fibr-oma" and a benign tumor of fatty connective tissue a "lipoma". If the connective tissue tumor is malignant an additional syllable "sarc" is inserted. Hence, a malignant tumor of fibrous connective tissue is called a "fibrosarcoma" and a malignant tumor derived from or made up of fat cells is called a "liposarcoma".

Normal epithelial tissues are divided into two groups (1) the glandular epitheliums and (2) the squamous epitheliums which cover surfaces. Benign tumors of glandular epithelium are named by adding the suffix "oma" to the usual prefix for gland resulting in the word "aden-oma". If the tumor is malignant the syllable "carcin" is inserted and we then have the term "adenocarcinoma". It is customary to add to these terms the name of the particular glandular tissue concerned, as adenoma of the breast or adenocarcinoma of the colon. Benign tumors of squamous epithelium always assume a branching, tree-like structure. For this reason they are named by adding the suffix "oma" to the prefix which indicates this structure giving us the word "papilloma". Since malignant tumors of squamous epithelium tend to differentiate so as to resemble skin (epidermis) they are named by adding the suffix "carcinoma" to the prefix which means skin-like (epidermoid) and we have the designation "epidermoid carcinoma". The term "epithelioma" is often used as a synonym. The word cancer, which originally had a somewhat specific meaning, has now come to be accepted as a general term, including all malignant tumors.

The above, while simple enough for lay consumption, is thought to be sufficiently comprehensive to serve as a basis for a physician's classification of the confusing terms encountered in this field. For example—if names which are derived from such sources as the names of men or from peculiar microscopic variations of cell types can be fitted into the above scheme the situation should be clarified. There remain, of course, certain obscure tumors which because of our inexact and limited knowledge cannot yet be accurately fitted into any scheme of classification.

TUBERCULOSIS RESPONSIBILITY IN PROVIDENCE

Providence has a hospital for the treatment of tuberculosis. Its equipment, while partially modernized, still harps back in many ways to the days when patients with tuberculosis were sent to a sanatorium to die rather than to be treated. The treatment, because of antiquated equipment and methods and poor organization, is cumbersome, time-con-

suming, and inefficient. This is hardly excusable in these enlightened times. Tuberculosis is generally considered to be a preventable and curable disease, and every indication is that this consideration is true. To prevent it and cure it, however, requires modern methods of control and treatment. Such methods are not available where they are most needed in the City of Providence.

True, the death rate from tuberculosis has been steadily falling. Some agencies in the city and state have worked sufficiently well to obscure the evasion of responsibility on the part of the city government and city institutions. But the burden has been too great and some of the responsibility has had to be cast aside to its proper place, the city government. The city has had plenty of time to act on this, but it continues to shirk its duty. This failure threatens to destroy much of the gain already made.

The private physicians, the district nurses, the Providence Tuberculosis League, and other groups including the citizens of Providence in general, are ever taking a more enlightened attitude. They are willing and eager to give all possible aid in eradicating this disease which is the greatest killer of our young men and women.

Shameful it is that our elected servants should shirk their responsibility so as to cripple the attack on this plague. If the medical and lay citizens of Providence fully appreciated how much could be done but how little actually is done, it is hardly possible that they would stand by silently. They would not let those to whom they have entrusted their affairs betray them in such an important problem. These blundering ways should be promptly investigated and set right.

LETTER TO THE EDITOR

Rhode Island Medical Journal,
To the Editor:—

Did anyone else have the experience I had a few days ago? I had a patient sixty-one years of age with acute cholecystitis and apparently an obstruction to the biliary tract who was acutely ill, therefore, sadly in need of hospitalization. After attempting to gain admission to three hospitals of which I am a staff member and being refused by the admitting office because there were no beds available it made me wonder as to the cause of the congestion. My conclusion was that it was due to the Blue Cross. This is not the fault of that fine plan of insurance, but rather a combination of negligence on the part of doctor and patient. As an illustration, I had a sixty-one year old female patient upon whom I performed a hemorrhoidectomy and in my opinion was ready to go home after seven days. She preferred to stay in the hospital on one pretext or another for eighteen days as she was a member of the Blue Cross and wanted to get the full benefit. It has been my experience except in rare cases that eight days hospitalization is sufficient for this type of operation. It would seem that I kept in use a bed for not even an invalid, when probably a serious case had to wait. This seems to apply to many minor illnesses that previously would have been taken care of at home. When this experience is multiplied by the three hundred or more physicians in Providence it becomes quite a problem because naturally it is much easier to take care of patients at the hospital so it would be preferred by the doctors. What will be the solution of this problem? Shall we attempt to build new wings at the various hospitals to accommodate the influx of these patients or curb the admission of minor illnesses and admission for laboratory tests? It seems as if there must be more co-operation between hospitals, patients and doctors until we can have additions to our present hospital set-ups or a different factor governing the length of stay of practically cured cases, or acutely ill patients will suffer needlessly.

Disappointed Surgeon

May 3, 1941

CLINICAL PATHOLOGICAL CONFERENCE

RHODE ISLAND HOSPITAL

Peters House, November 26, 1941

Case presented by Dr. Herman A. Lawson

A housewife, age 63, born in Greece, was first admitted to the Rhode Island Hospital in April, 1937. She then complained of cough, fever and sweats for one month. She complained also of general bodily aching and ease of fatigue. She described a pain in both shoulders and arms, which seemed to originate in midpoint of sternum and was noticed only when she had fever. She thought she suffered from fever one year previously when she was visiting in Greece. She had mild dyspnea on exertion.

Physical examination showed temperature 102.6 (rectal), pulse 110 and respiration 30, B. P. 130/70. On admission House officer described significant physical signs in left lung, but second House officer did not agree.

X-ray on admission showed no evident consolidation; very slight increased thickening in region of the right apex probably due to an obsolete tuberculosis. Heart shadow not enlarged.

Laboratory work showed nothing remarkable—Wassermann negative; urine negative (sediment not examined), RBC 4.2; Hglb. 86 Sahli; WBC 5800; Polys. 60, Lymph 40.

Blood chemistry: B.U.N. 30, Creatinine 1.7, Glucose 84.

Agglutination tests: Widal negative, Undulant fever negative.

Temperature returned to normal on second day. Patient was free of symptoms and complaints and was discharged on the eighth day, disease undiagnosed.

Second and final admission was on July 23, 1939, two years and three months after discharge.

Chief complaint was pain in left chest of four days' duration. She stated that she had been perfectly well until two weeks before when she developed pain, redness, swelling on inner side left leg. This cleared up with use of heat. One week later she developed sudden sharp pain in right side of chest with dry cough that increased chest pain. This lasted only a few days. Four days before admission she developed similar pain in left chest anteriorly, the pain being accentuated by coughing or breathing. No chills or fever.

Physical examination showed temperature 100.8, pulse 106, resp. 24. B.P. 130/70. A well developed, obese, gray-haired, elderly woman propped up in bed. Respirations were shallow and grunting and she seemed in considerable discomfort. Skin showed moderate pallor, was very warm and dry. Tongue cyanotic and showed thick white coat. Teeth lower plate; upper teeth very dirty with alveolar pus. One pea-sized submandibular gland, not tender. Chest showed slightly diminished excursion left, with slight dullness and diminished breath sounds at left base. Vocal fremitus absent. Moist, sticky rales on inspiration. Right chest showed a few rales at lower anterior chest with high-pitched bronchovesicular breath sounds. Heart appeared enlarged to left. Cyanosis of finger nails and feet and toes. There was swelling of the right leg below knee with pitting ankle edema. The lower one-third of both extremities showed bluish discoloration, but no changes in temperature, and a very good dorsalis pedis pulse in each foot. No tenderness along course of superficial veins.

X-rays on admission showed changes in left lower lobe consistent with infectious process, and changes in shape and size of heart consistent with arteriosclerotic heart disease. On the fifth day it showed area of homogeneous density at left base obscuring left border of heart, left diaphragm and costophrenic angle. The right costophrenic angle was shallow. Heart enlarged and aorta widened; trachea in midline, consistent with fluid at left base and perhaps at right base.

E. K. G. showed nothing except increased rate and left axis deviation.

Urine showed occasional traces albumen and on two occasions few granular casts.

Wassermann and Hinton negative.

Blood chemistry normal—B.U.N. 15; Glucose 100.

Impression—Thrombophlebitis with pulmonary infarctions. This diagnosis was confirmed by visiting physician who thought there was fluid in left chest.

The patient remained in the hospital for forty-four days and then expired. During this time there were frequent and repeated episodes of pain and swelling in the extremities, sometimes with redness and tenderness over the more superficial veins. On the fourth day the left arm was involved; on the eighteenth day the left leg; on the twentieth day the left side of the neck, apparently thrombophlebitis of the left internal jugular vein. On the thirtieth day the right arm became swollen, red and painful along the flexor surface. On the thirty-sixth day edema of the lower legs and ankles and a pitting edema over the sacrum were noted. There was dullness to flatness over both bases with diminished breath sounds.

A chest tap was done on the fortieth day and six ounces of thin, cloudy, slightly bloody fluid was obtained. Culture of this was sterile; smear showed some pus cells but no organisms. During her stay in the hospital the patient complained of a sore mouth for which she was given perborate. She apparently also had breakdown of the skin of the back. She continued to have fever; 99 to 100 with occasional rises to 101. The last day or two her temperature rose sharply and she expired on the forty-fourth day.

Blood counts:

	RBC	Hglb.	WBC	
2nd day	3.97	11.4	14,450	Polys 81.
20th day	4.65	10.0	9,750	
41st day	5.05	13.0	23,600	

Treatment was symptomatic except for an effort to alter coagulability of blood by injections 50 c.c. sodium citrate solution intravenously. This produced no demonstrable change in clotting or bleeding times which remained normal.

Discussion

Dr. Herman A. Lawson: The story is undoubtedly that of thrombophlebitis involving all four extremities and a vein in the neck and associated with pulmonary infarction occurring before admission to the hospital. Laboratory studies, such as electrocardiogram, Wassermann, etc., were not remarkable except for the blood counts which showed mild anemia and polynuclear leucocytosis.

There are several questions that come up. First of all whether or not there was any relationship between the first and second admissions. No diagnosis was made in 1937, but I think it is quite possible she may have had some acute infection at that time. Nothing was found on X-ray examination of the chest. No evidence of thrombophlebitis was observed at that time. It is well known that one may have pulmonary infarction resulting from symptomless thrombosis and that the most serious and dangerous pulmonary complications are associated with this type. The time limit is not against that possibility, since we have within a few weeks had demonstrated at our Saturday morning meeting a patient who has continued to have repeated episodes of pulmonary infarctions over a period of years.

I wondered, too, whether there was any relationship between this illness and the fact that she thought she had fever while in Greece a year previously. Of course, I wondered why this patient should have this migrating thrombophlebitis occurring in veins all over the body. What the etiology or pathogenesis is I have no idea. It is thought by some to be related to foci of infection. The house officer, on admission in 1939, described a rather bad condition of the gums, which showed inflammation or pus. I can see no reason to doubt the diagnosis of thrombosis with pulmonary infarction. She gradually became worse. There was no sudden acute episode to suggest she died of a large pulmonary embolism, but she died of some condition associated with a gradual decline in her health. The white blood count was 24,000 three days before she died.

At the time she had a high fever there is a Nurse's note that she apparently had a break in the skin of the back, and I wonder whether or not that may have been a focus of entry, causing septicemia. There was apparently no blood culture taken during the stay in the hospital. The patient had a sore mouth for which she was getting sodium perborate, but there is no description of the sore mouth. It may have been simply a severe inflammation or suppurative infection of the gums which were already involved when she came into the hospital.

We could say this patient died of so-called terminal bronchopneumonia. She had persistent changes in the chest until the very end. The fluid removed from the chest was sterile. No organisms were seen in the smear. Cases of pulmonary infarction have been described that have been followed by secondary infection, particularly areas of pneumonitis and pleuritis which may lead to necrosis of the lung and extension into the pleural cavity, causing empyema.

Dr. Irving A. Beck: I was interested by the anterior chest pain radiating to the arms and shoulders, when fever was present. It suggests that the pain was anginal in character. It can be explained as due to an inadequate blood supply to the myocardium with the tachycardia and elevated metabolism of the febrile state. I would expect some degree of coronary sclerosis to be found to explain this inadequate flow.

A great variety of etiologies has been ascribed for the heterogenous group of cases making up the syndrome of thrombophlebitis migrans. Buerger in 1909 clearly separated out one group with a more or less specific histological picture, which is a precursor or concomitant of the arterial disease which bears his name. Carcinoma, metastatic to the veins, can also produce the clinical picture. These are the only forms in which the histology can be regarded as specific (except those cases in which there are actually infected emboli or thrombi, as may occur in the course of a bacteremia). Among the various other causes ascribed are syphilis, foci of infection, gout, tuberculosis, rheumatic fever, and allergy.

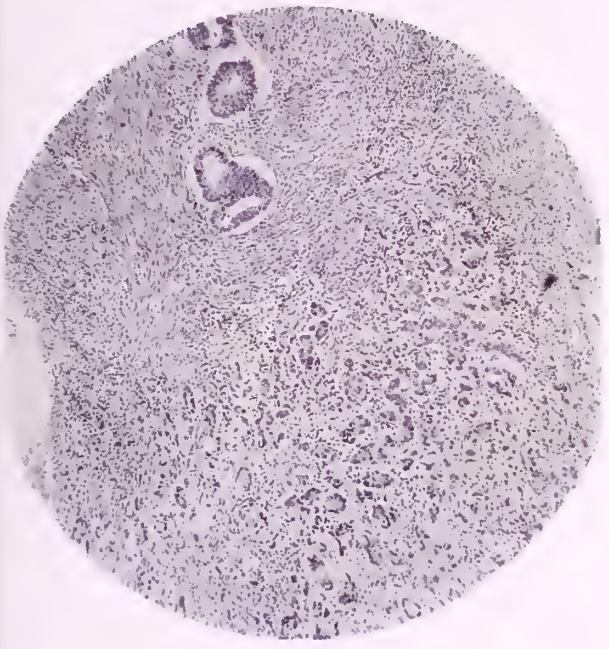

Fig. 1. The primary carcinoma of the gall bladder. Low power showing infiltration of cords of tumor cells into the muscle coat.

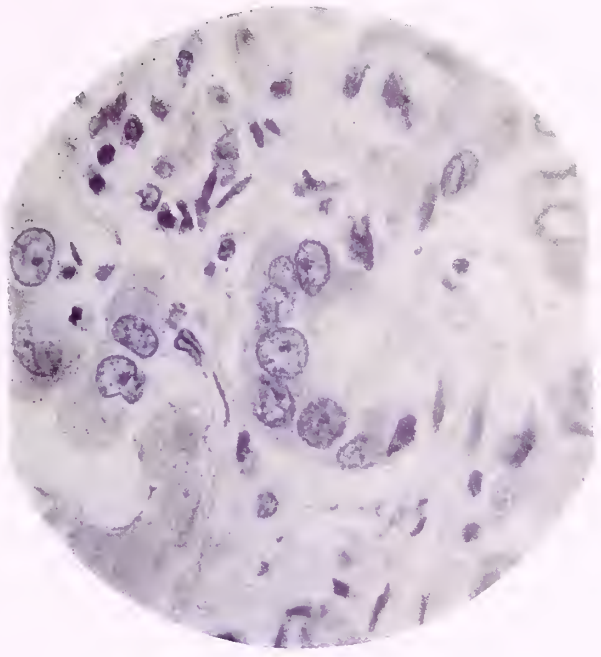

Fig. 2. Metastatic carcinoma in lymph node. High power showing cell detail.

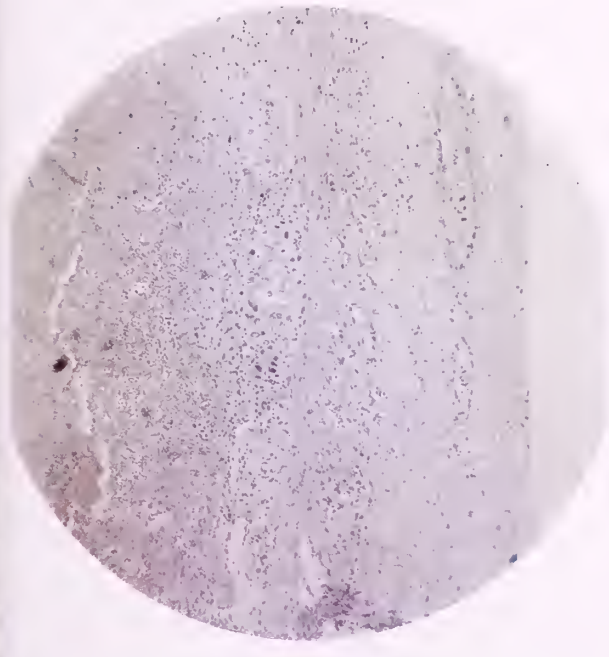

Fig. 3. A portion of the wall of a thrombosed vein. Tumor cells are seen in the periphery of the thrombus (center).

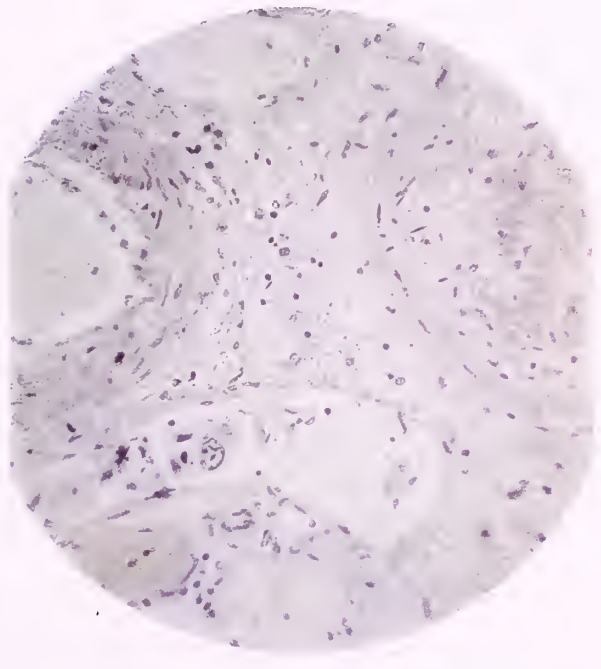

Fig. 4. The edge of a thrombosed vein is seen at the right. Below and to the left is a perivascular lymphatic within which are tumor cells.

None of these has been proved, unless the last, i. e. allergy to tobacco, is the cause of the Buerger's type. I don't think I have anything to add, as regards a definite etiology, in this particular case.

Dr. B. Earl Clarke: At the postmortem the one important finding on external examination was marked edema from the knees downward.

The left pleural cavity contained 200 c.c. of bloodstained fluid and the right 200 c.c. At the bases of both lungs there were several small areas that were hard and on section red, and somewhat wedge-shaped (infarcts). These measured up to 2 cm. in diameter at the pleural surface. In the costophrenic area of the base of the right lung was a similar area which on section was grayish-white. Within the artery leading to this area was an adherent grayish thrombus. This is definitely an older infarct and probably dates from the attack of pain in the right chest.

In the spleen were several similar small infarcts.

The gastro intestinal tract was essentially normal, as was the liver.

The gall bladder wall was observed to be thick and its inner surface covered with a grayish, friable material within which were several small stones.

Small infarcts were also found in the kidneys.

The veins were of especial interest. Within the vena cava, beginning about 2 cm. below the entrance of the renal veins, was a thrombus which extended downward to the bifurcation of the common iliacs. It did not fill the entire lumen. The external iliac veins were completely occluded by dark, red, friable thrombus. The internal iliacs were partially obstructed. The jugular veins were found to contain similar clots.

The microscopic findings were especially interesting (sections shown). There was a carcinoma of the gall bladder (Fig. 1). In many sections of thrombosed veins there are found within the organizing thrombi (Fig. 3) and within the tiny vessels of the vein wall and within the perivascular lymphatics (Fig. 4) groups of tumor cells of the same morphology and staining characteristics as the tumor in the gall bladder. The only other metastatic tumor was in the para aortic lymph nodes. (Fig. 2).

Pathological diagnosis:

1. Carcinoma of the gall bladder with metastasis to the veins and para aortic lymphnodes.
2. Thrombosis of many veins.
3. Infarcts of lung, spleen, kidney and brain.

RHODE ISLAND MEDICAL SOCIETY

Minutes of the One Hundred and Thirtieth Annual Sessions

Meeting of the Council

May 8, 1941

The regular meeting of the Council of the Rhode Island Medical Society was held in the Library building Thursday, May 8, 1941. The meeting was called to order by the President, Dr. Lucius C. Kingman.

Those present were Drs. Kingman, Mowry, J. P. Jones, Hammond, Abbate, Hussey, Miller, Donley, Buffum (Assistant Secretary), Partridge, Ashworth (Assistant Treasurer) and Wells.

The Secretary read the minutes of the meeting of the Council of January 16, 1941. The minutes were approved.

Dr. Mowry then read the Treasurer's report, discussing certain features of the report. He noted that, while the amount on hand was nearly five hundred dollars less than last year, expenses had increased nearly one thousand dollars.

Dr. Mowry then reported the names of those placed on the retired list as follows:—

Dr. Irving S. Cook of Georgiaville

Dr. Charles E. Hawkes of Greenville

Dr. Joseph T. Roswell of Woonsocket

The Council then voted to approve the Treasurer's report and to transmit it to the House of Delegates

There being no further business, the Council adjourned at 4:30 P. M., with Dr. Kingman in the chair.

Respectfully submitted,

GUY W. WELLS, M.D.,
Secretary

House of Delegates

May 8, 1941

The House of Delegates was called to order May 8, 1941, at 4:40 P. M. by the President, Dr. Lucius C. Kingman.

Those present were Drs. Kingman, Mowry, J. P. Jones, Hammond, Abbate, Hussey, Miller, Donley, Buffum (Assistant Secretary), Partridge, Ashworth (Assistant Treasurer), Foley, Tatum, Merle Potter, Bird, Webber, Hacking, Burgess, W. S. Jones, Brackett, Messinger, M. Saklad, Ronchese, Walsh, Southey, Hanley and Wells.

A verbal résumé of the proceedings of the Council meeting that immediately preceded the House of Delegates was given by the Secretary.

The Secretary then read the minutes of the meeting of the House of Delegates of January 16, 1941. The minutes were approved.

The President called for a report of the Committee on Nominations. This was read by Dr. Buffum for Dr. John F. Kenney, the Chairman. The report was approved.

The Treasurer then read his report. The Secretary's report was read and accepted.

The President called for reports of Committees. The following Committees reported:

Standing Committees

Committee on Arrangements (Committee on Annual Meeting), Dr. Walter S. Jones.

Committee on Legislation, Dr. William H. Foley.

Committee on the Library, Dr. Herbert G. Partridge.

Committee on Publication, Dr. John E. Donley.

Committee on Necrology, not reported.

Committee on Education, Dr. Jesse P. Eddy, 3rd.

Board of Trustees of the Building, Dr. John P. Jones.

Appointed Committees

Committee on Resolutions, Dr. William H. Foley.

Committee on Publicity, Dr. Jesse P. Eddy, 3rd. No report at this time.

Committee on State Policies of Public Health, Dr. Edward S. Brackett.

Committee on Public Health, Dr. Charles F. Gormly (read by Secretary).

Sub-committee on Industrial Health, Dr. Charles F. Gormly (read by Secretary).

Sub-committee on Cancer, Dr. Herman C. Pitts (read by Assistant Secretary).

Sub-committee on Public Health Clinics, Dr. Stanley Sprague. No work, as yet, to report.

Sub-committee on Child Health, Dr. Henry E. Utter (read by Assistant Secretary).

Sub-committee on Maternal Mortality, Dr. John G. Walsh.

Committee on Social Welfare, Dr. William P. Buffum.

Committee on Medical Defense and Grievance, Dr. William A. Mahoney. No work to report.

New Business

It was moved by Dr. Buffum that: "Under the present arrangement, when S.U.R. recipients are treated in a hospital, the Department of Social Welfare pays the hospital two dollars a day for such care. Hospital care of a patient always costs the hospital more than five dollars a day and almost always more than six dollars a day. Under these circumstances the House of Delegates of the Rhode Island Medical Society considers that it would be only fair to pay the hospitals not less than four dollars a day for care of S.U.R. recipients and requests the State Department of Social Welfare to give the matter their earnest consideration." The motion was seconded and passed.

Because of changes or proposed changes in the Workmen's Compensation Act, Dr. Walter S. Jones moved the President be empowered and directed to appoint a Committee on the Workmen's Compensation Act, the Committee to consist of five members. The motion was discussed by Drs. Kingman and Messinger. Motion was seconded and passed.

Dr. Brackett moved the President be empowered and directed to appoint a Committee of three to propose revision and printing of the By-Laws and probably the Charter and to report their recommendations to the House of Delegates at the meeting in January, 1942. The motion was seconded and passed.

The meeting adjourned at 5:40 P. M., Dr. Kingman presiding.

Respectfully submitted,

GUY W. WELLS, M.D.,
Secretary

Committee on Nominations

The Committee on Nominations appointed by the President to submit to the House of Delegates a list of Officers and Standing Committees for the ensuing year, begs leave to report as follows:

President—Frederic V. Hussey, Providence
First Vice President—John Paul Jones, Wakefield
Second Vice President—
Charles F. Gormly, Providence
Secretary—William P. Buffum, Providence
Assistant Secretary—Morgan Cutts, Providence
Treasurer—Jesse E. Mowry, Providence
Assistant Treasurer—
Charles J. Ashworth, Providence

Legislation, State and National

William H. Foley, Providence
Francis H. Chaffee, Providence
Earl F. Kelly, Pawtucket
The President and Secretary, ex-officio

Publication
John E. Donley, Providence
Alfred L. Potter, Providence
John F. Kenney, Pawtucket
The President and Secretary, ex-officio

Education, State and National
Jesse P. Eddy, 3rd, Providence
Charles L. Farrell, Pawtucket
John Langdon, Providence
The President and Secretary, ex-officio

Library
Herbert G. Partridge, Providence
Andrew W. Mahoney, Providence
Samuel Adelson, Newport

Necrology
Edward T. Streker, Providence
James C. Callahan, Newport
Francis J. King, Woonsocket

Arrangements
Walter S. Jones, Providence
Ralph DiLeone, Providence
Edward F. Burke, Providence
The Treasurer, ex-officio

Delegate
Guy W. Wells, Providence

Alternate
William P. Buffum, Providence

Auditors
Robert T. Henry, Pawtucket
Joseph W. Reilly, Woonsocket

OBITUARY

DR. CHARLES VALUE CHAPIN

Dr. Charles V. Chapin passed away at his home, 84 Keene Street, Providence, Rhode Island, on January 31, 1941 at the age of 85. He was born in Providence on January 17, 1856, the son of Dr. Joshua B. and Louise Value Chapin. He was educated in the public schools of Providence and at the Mowry and Goff High School of this city. He spent his whole life in Providence except for the time spent in medical school in New York City.

He was graduated from Brown University in the class of 1876. From Brown he went to Bellevue Hospital Medical College, New York City, from which he was graduated in 1879. While at Bellevue he formed a lifelong friendship with a fellow intern, Dr. William Gaugas whose sanitary work made possible the building of the Panama Canal when the French had previously failed because of the ravages of malaria and yellow fever among the workmen. On his return to Providence he became a general practitioner until 1884 when he was elected Superintendent of Health, a position which he held until 1932. He was also City Registrar from 1888 to 1932.

As Superintendent of Health he succeeded Dr. Edwin M. Snow, who had filled this position from July 1856. It is interesting to note that from 1856 to 1932 the position of Superintendent of Health was filled by these two men only. Dr. Snow held office for 28 years and Dr. Chapin for 48 years. From 1886 to 1896 he was Professor of Physiology at Brown University. He was a lecturer at Harvard Medical School in 1909 and lecturer at the Massachusetts Institute of Technology School for Health Officers from 1913 to 1922, and the Harvard School of Hygiene and Public Health from 1923 to 1935. Dr. Chapin was President of the American Public Health Association in 1927 and was the first President of the American Epidemiological Society.

Dr. Chapin was a prolific writer. His first book was "Municipal Sanitation," published in 1901. His second book entitled "Sources and Modes of Infection" was published in 1912. This work was largely responsible for his world-wide reputation in the field of public health. The ideas advanced here were new and disregarded a great many of the older conceptions of the modes of infection. Like many new ideas, it created a good deal of discussion but as the years went on this textbook became the most widely used of any textbook in public health by Health Officers in this country and abroad and was a standard work used by the United States Government Medical Services. It really was a masterpiece of well thought out public health measures as related to the sources of infection and how infectious diseases are actually transmitted. One of the most radical recommendations in this textbook was to disregard air-borne infection, belief in which had been maintained for centuries. The result of Dr. Chapin's teaching as outlined in this famous textbook has changed the entire public health procedures in the United States relating particularly to the control and prevention of infectious diseases.

In 1915 Dr. Chapin made a survey for the American Medical Association of all the State Boards of Health in the country, the results of which were published by the Association as "A Report on State Public Health Based On a Survey of State Boards of Health." In making this survey Dr. Chapin for the first time applied a numerical

value to each phase of the health department activities. This was sort of a measuring rod by which the activities of different health departments could be evaluated. In 1917, he published another book, "How to Avoid Infection," a second edition of which appeared in 1921.

He delivered the fourth Sedgewick Memorial Lecture, the subject, "Changes in Types of Contagious Diseases" in 1926. On April 16, 1930 he received the first Sedgewick Medal, presented to him by the American Public Health Association at the banquet of the New England Health Institute held in Boston. On eight occasions he won the Fisk Fund Prize offered by the Rhode Island Medical Society. He also received the Susan Colver Rosenberger Medal from Brown University in 1935. He was the fourth alumnus of Brown University so honored. Previous recipients of this medal were Dr. W. W. Keen of Philadelphia, Chief Justice Charles Evans Hughes, and John D. Rockefeller, Jr. The National Academy of Sciences awarded him the Marcellus Hartley Gold Medal in 1928. These medals he prized very highly. The following honorary degrees were conferred upon him in institutions of learning; Sc.D. Brown University in 1909; Sc.D. Harvard University in 1901; LL.D. Yale University in 1928; and Sc.D. Rhode Island State College in 1932.

On January 29, 1924 the medical scientists of the United States and Canada united in honoring Dr. Chapin at a dinner in Providence in commemoration of his completion of forty years as Superintendent of Health in this city. On January 17, 1927, the Rhode Island Medical Society honored him with a testimonial at the Rhode Island Medical Library on Francis Street. The speaker of the day was George E. Vincent who at the time was President of the Rockefeller Foundation, and who paid Dr. Chapin high tribute as "the leader of them all." During his lifetime, because of his eminent work in public health, he was appointed to many important committees, not only of the American Public Health Association, but also the National Red Cross, American Medical Association and other societies concerned in public health.

In 1934 the Commonwealth Fund of New York published the "Papers of Charles V. Chapin, M.D." This work was begun by Frederic P. Gorham, A.M., Sc.D., Professor of Biology at Brown University, of whom Dr. Chapin was very fond, and edited by Clarence L. Scamman, M.D., a member of the Commonwealth Fund Staff. The foreword in this volume was written by Dr. Haven Emerson who is Professor of Public Health at Columbia University. The writings of Dr. Chapin were reviewed carefully and six papers were selected because they contained material most valuable in the execution of effective public health work.

He began writing weekly articles for the *Providence Journal* in 1917 and continued them for about ten years. The public became very much interested in his articles on Medical Facts and Queries not only because of the eminence of the writer but also because of the manner in which he presented his subjects.

During his lifetime, Dr. Chapin made 133 contributions to public health literature, 22 of which were books and pamphlets, 92 contributions to periodicals and books, six health reports and serial contributions to periodicals, and 13 committee reports.

During his term of office as Superintendent of Health, he took great pride in the preparation of the reports of the Department. These annual reports contained many tables bearing upon different phases of infectious diseases. Because of his long tenure of office some of these tables continued for over a period of almost half a century at the time of his retirement. Many of his ideas were crystallized by studying these tables arranged by diseases, age groups, seasons, mortality and fatality rates. His annual reports were probably studied by more health officers than any other set of reports issued in the United States. His reports of vital statistics were equally fine and were studied by other health authorities.

Also during his years as Superintendent of Health, the need of hospitals for infectious diseases was impressed upon him and it was through his efforts largely that the so-called "City Wards" on the grounds of the Rhode Island Hospital were built and occupied in 1896. The City contributed the major portion of the funds necessary for its construction. Two wards in the same building were provided for, one for scarlet fever and one for diphtheria. Years later the Rhode Island Hospital authorities wished to terminate the agreement with the City because the number of patients had increased considerably and it was thought they might

be a menace to other patients in the Hospital. After numerous conferences the City appropriated the money to build the Providence City Hospital. Dr. Chapin was a member of the building committee and as Superintendent of Health naturally had a great deal to do with the construction. It was his idea, after having visited certain European centers, that it would be advisable to take care of different kinds of contagious diseases on the same floor providing aseptic technique could be rigidly carried out. His ideas were particularly expressed in one building, called the Isolation Ward where, from the opening of the hospital in 1910, all kinds of contagious diseases were treated, with very few instances of cross infection from one room to another.

Ultimately the same technique was introduced to all the wards. Naturally, Dr. Chapin was very proud of this hospital because of the success of this experiment in which medical asepsis was first tried out in this country.

As Superintendent of Health he was Ex Officio Secretary of the Board of Hospital Commissioners from the establishment of the Providence City Hospital in 1910 until he retired in 1932. During all this time scarcely a week went by without his visiting the hospital to follow its work. At the time of his retirement, in recognition of his great interest and his contribution to the improved hospitalization of infectious diseases, the City Council of Providence changed the name of the Hospital to the Charles V. Chapin Hospital. He was deeply appreciative of this honor and was perhaps as much moved by this recognition as he had been by the many other honors which had fallen to him.

Under his direction, Providence was the first city in the United States to establish a municipal laboratory, (in 1888), and now universally employed. In 1893 he made the first experiments in filtering water by mechanical filtration, and Providence was the first city in the United States to discontinue fumigation, in 1905.

Dr. Chapin resigned as Superintendent of Health and City Registrar in 1931 but this did not take effect until January 4, 1932 when the honorary title of Superintendent of Health Emeritus was bestowed upon him.

Dr. Chapin is survived by his wife, whose maiden name was Miss Anne A. Balch, and Mrs. Virginia K. Viall, a sister. He was married May 6, 1886. They had one child, Howard, who was Librarian of the Rhode Island Historical Society until he died September 18, 1940.

John M. Peters, M.D.
Dennett L. Richardson, M.D.

Providence, R. I.
April 4, 1941

JOHN J. KENNEY, M.D.

The Providence Medical Association mourns the loss of another member, John J. Kenney, M.D., who responded to his last call on November 7, 1940. He died in his 56th year.

Dr. Kenney was born in Woonsocket, Rhode Island. After finishing his preliminary education at Dean Academy in Franklin, Mass., he entered Dartmouth Medical College, where he was awarded his doctorate in medicine. He interned at St. Joseph's Hospital for a year, after which he established an office on Branch Avenue in Providence, where he continued in active practice until his death.

At the time of his death he was of the Consultant Staff at St. Joseph's Hospital, where he had served for many years as Assistant Gynecological Surgeon and Obstetrician. He was also on the Associate Staffs of the Homeopathic and Lying-in Hospitals. He was a member of the American Medical Association, the Rhode Island Medical Society, and the Providence Medical Association.

Dr. Kenney was a conscientious, considerate, conservative and competent physician. He was modest and simple in his tastes and desires, neither desiring nor seeking publicity. He was satisfied and content in the consciousness of duty to his patients and to his family well done. His attributes earned for him the confidence and loyalty of his patients, the regard and esteem of the confraternity of physicians and the appreciation and love of his family.

Resolved, that the sympathy of the members of The Providence Medical Association be extended to Mrs. Kenney and his family.

Resolved, that this obituary be inscribed in the records of the Association and a copy be sent to Mrs. Kenney.

William S. Streker, M.D.
William R. McGuirk, M.D.

RHODE ISLAND MEDICAL SOCIETY

List of Fellows corrected to April 19, 1941

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ADELSON, Samuel
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ALEXANDER, George H.
ALLEN, Reginald A.
ALLIN, Francis E.
ANGELONI, Tito
APPLETON, Paul
ARCHAMBAULT, Joseph F.
ARMINGTON, Herbert H.
ASHTON, George W.
ASHWORTH, Charles J.
ASTLE, Christopher J.

BALDRIDGE, Robert R.
BARBER, Joseph D.
BARNES, Albert E.
BARNES, Alvah H.
BARR, Kathleen M.
BARROWS, Albert A.
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BATES, Reuben C.
BEARDSLEY, J. Murray
BECK, Irving A.
BECKETT, Francis H.
BELANGER, Joseph F.
BELLIOTTI, Joseph L.
BENJAMIN, Emanuel W.
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BERNSTEIN, Perry
BERRILLO, Anacleto
BERTINI, Armando A.
BEST, Oliver F.
BIRD, Clarence E.
BISHOP, E. Wade
BLACK, Edward J.
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BLAZAR, Irving
BLOUNT, Samuel G.
BOLOTOW, Nathan A.
BOLSTER, John A.
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BOURN, Lucy E.
BOWEN, Earl A.
BOWLES, George E.
BOYD, James F.
BRACKETT, Edward S.
BRADLEY, Charles
BRADSHAW, Arthur B.
BRAY, Russell S.
BROADMAN, Harry
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BROWN, Frederick N.
BUFFUM, William P.
BUGBEE, Raymond G.
BURGESS, Alexander M.
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BURKE, F. Edward
BURNS, Francis L.
BURNS, Louis E.
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BUTLER, William J.
BUXTON, Bertram H.

CALDER, Harold G.
CALISE, Domenico
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CAMERON, Edward S.
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CASE, Jarvis D.
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CLARKE, Elliott M.
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GILBERT, John J.
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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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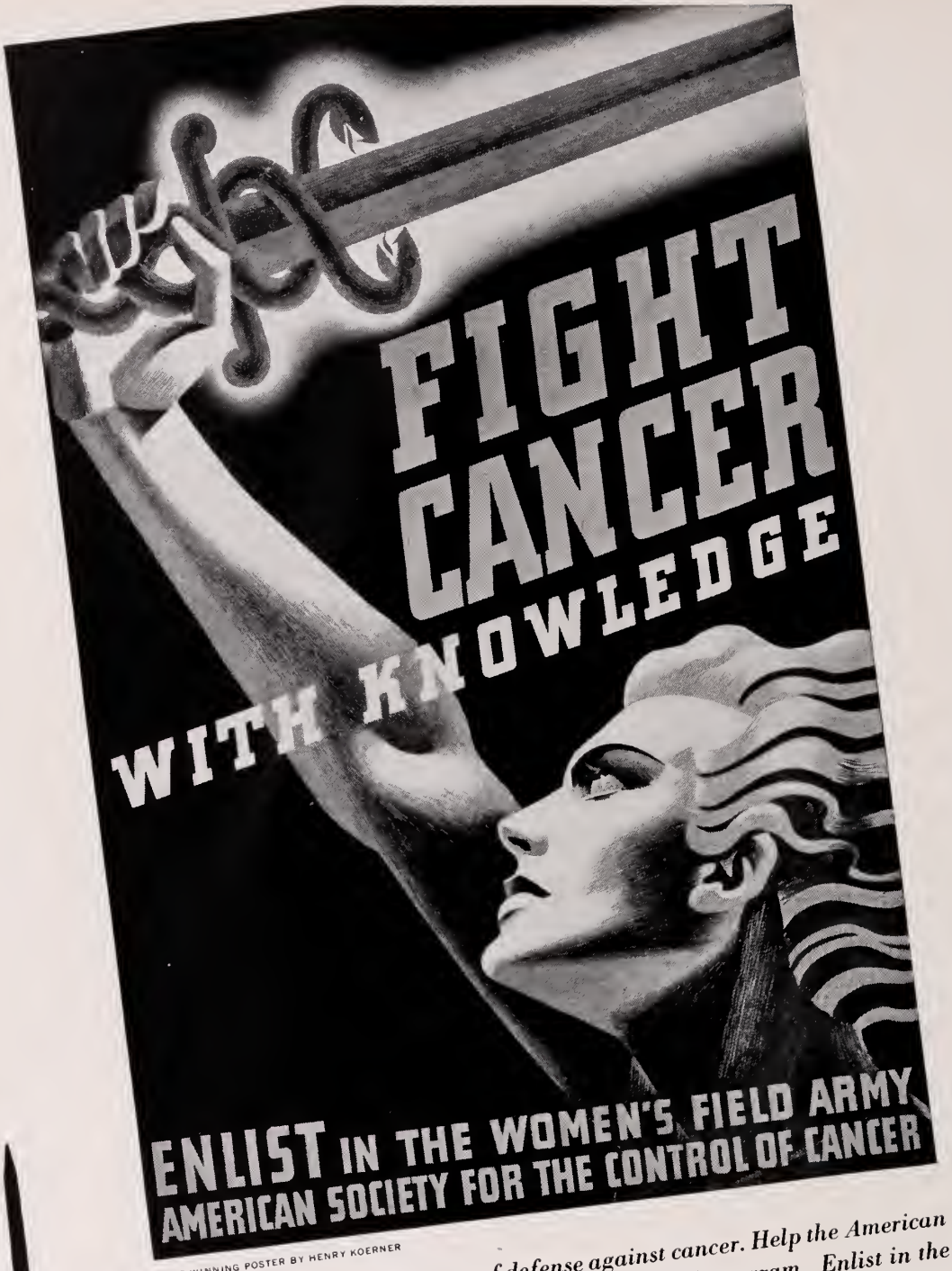

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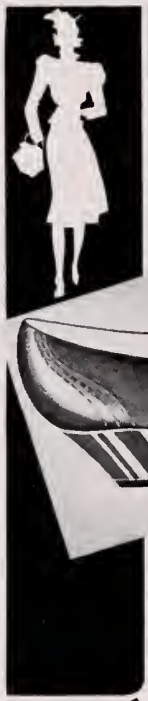

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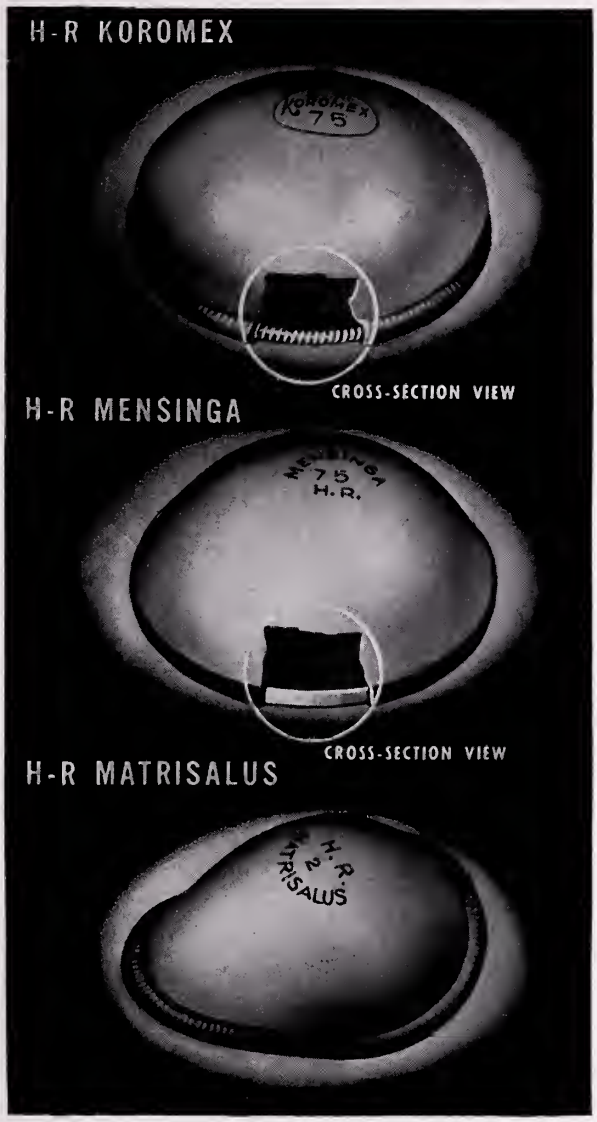

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Are the Neuritic Symptoms of Pregnancy *due to a deficiency of vitamin B_1 (thiamine)?*

SUCH common neuritic symptoms of pregnancy as pains in arms and legs, muscle weakness, and (less frequent but more serious) paralysis of the extremities may result from a shortage of antineuritic vitamins, recent investigations appear to show. Although neuronitis of pregnancy has long been considered a toxemia, no toxins have ever been identified.

Clinical observations of Strauss and McDonald lead to the conclusion that the condition is a dietary deficiency disorder similar to beriberi, caused by lack of vitamin B_1. They report recovery in their cases receiving this therapy, including dried brewers' yeast.

Hyperemesis as Cause of Avitaminosis

Wechsler observes that all cases of polyneuritis of pregnancy recorded in the literature were preceded by long periods of severe vomiting. "It would seem," he adds, "that because of actual starvation these patients suffered from avitaminosis and consequent neuritis," a view likewise held by Hirst, Luikart, and Gustafson. Plass and Mengert observe that the practice of giving high carbohydrate feedings for hyperemesis gravidarum is still more likely to cause avitaminosis.

Dried brewers' yeast, as it is far richer than any other food in vitamin B_1 (thiamine), is being used with benefit both in the prevention and treatment of polyneuritic symptoms of pregnancy. Lewy found that additions of yeast to the diet reduced electric irritability of the peripheral nerves and brought clinical improvement. Vorhaus states that he and his associates, after administering large amounts of vitamin B_1 (thiamine) to 250 patients having various types of neuritis, including that of pregnancy, observed in about 90% of cases "varying degrees of improvement, i.e., from partial relief of pain to complete disappearance of all symptoms."

Need for Vitamin B_1 (thiamine) in Lactation

Evans and Burr, Hartwell, Sure and co-workers, and Macy *et al* are among numerous authorities who find that the nursing mother also needs a supplement of vitamin B_1 (thiamine) from 3 to 5 times the normal requirement. It is accepted that during pregnancy and lactation the requirement for vitamin G (riboflavin) is increased.

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THE RHODE ISLAND MEDICAL JOURNAL

THE N.Y. ACADEMY OF MEDICINE
JUL 14 1941

Volume XXIV JULY, 1941 Number 7

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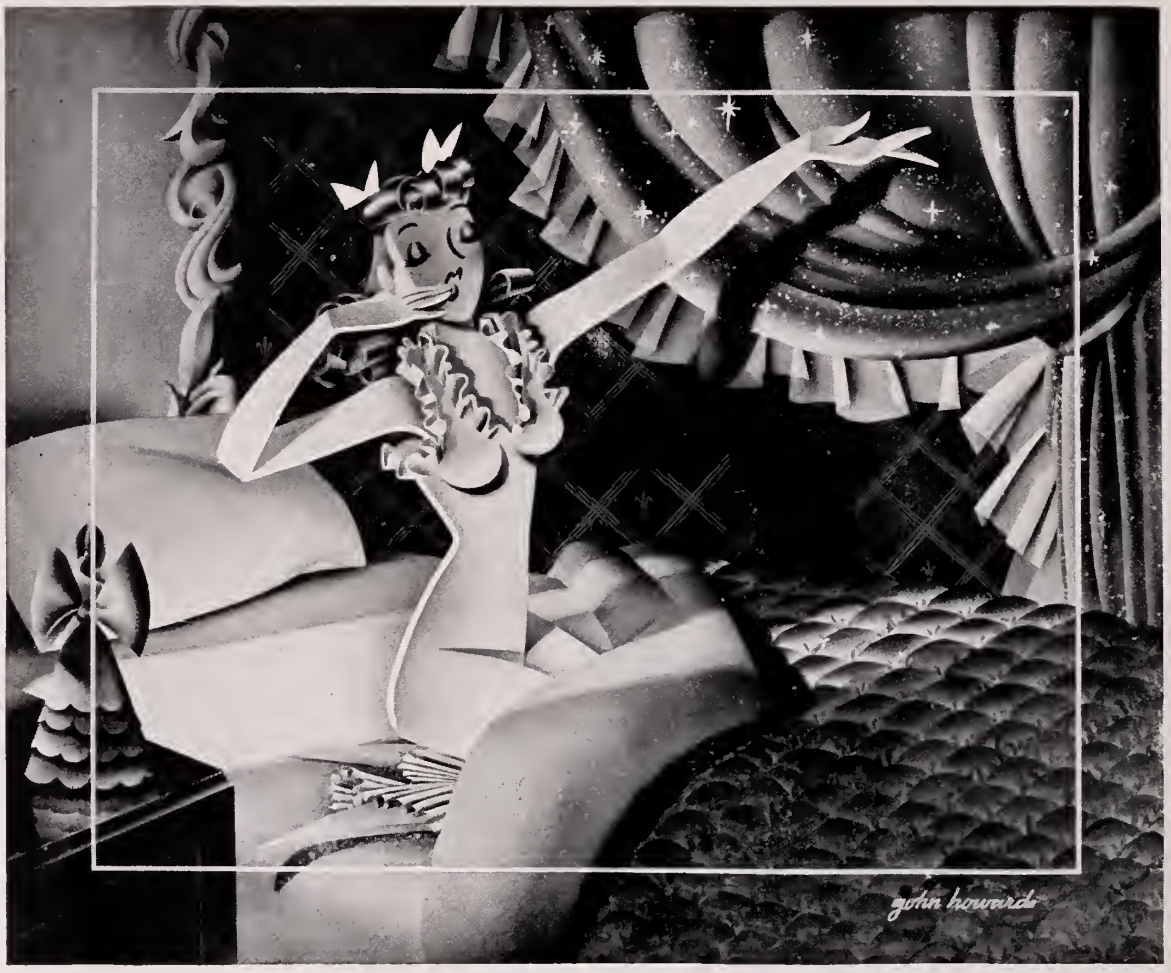
Entered as Second-Class Matter at the Post Office at Providence, R. I., Under Act of March 3, 1879



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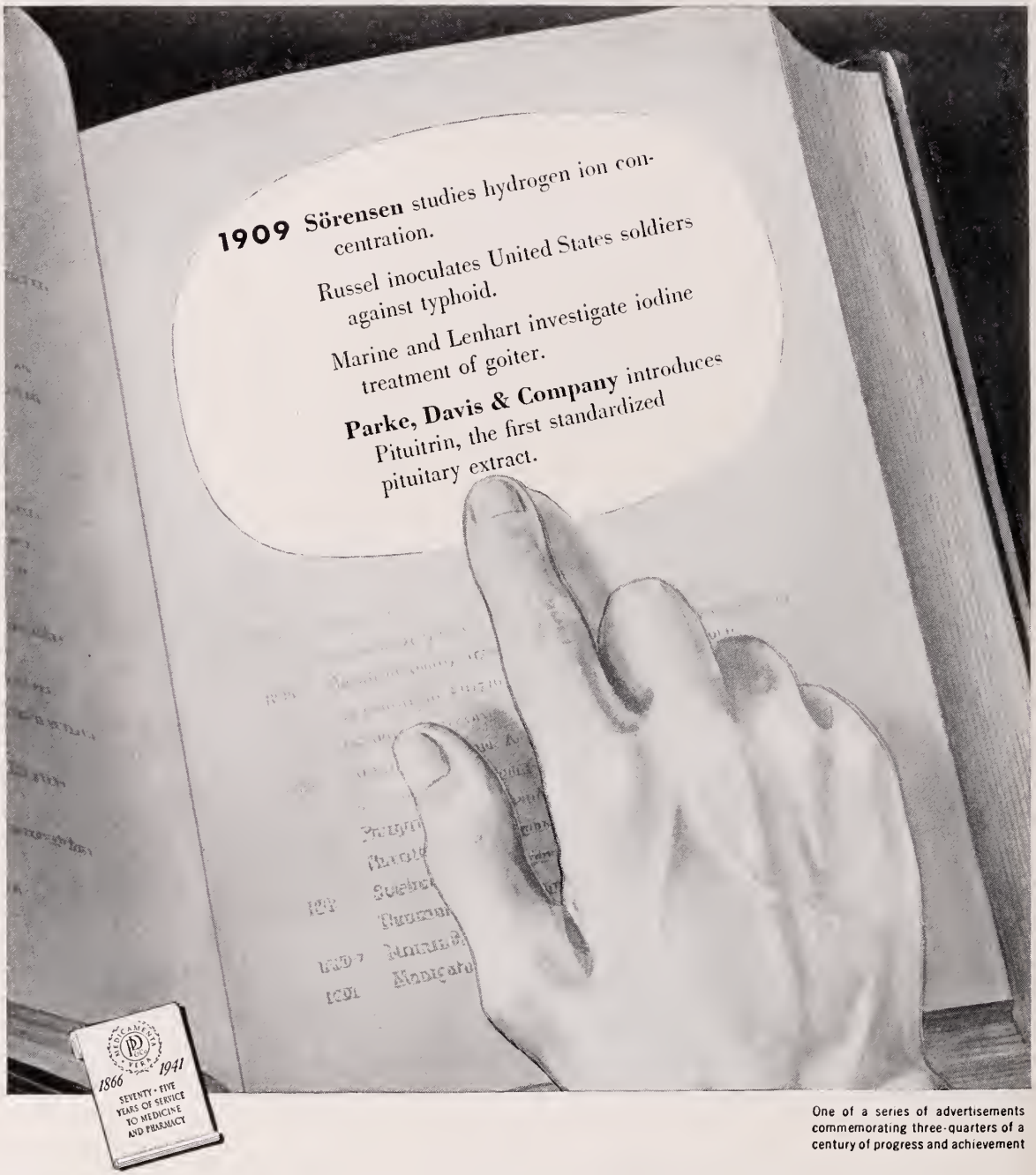
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[1] Cooke, R. A., and Stull, A.: *J. Allergy* 4: 87, 1933.

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(1) 1941. Canner 92, No. 12, Pt. 2, pages 78-81. 1936 Canner 82, No. 11, Pt. 2, pages 104-105.

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GYNECOLOGY
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you need the

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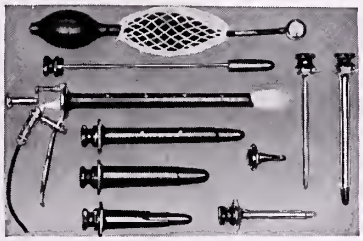

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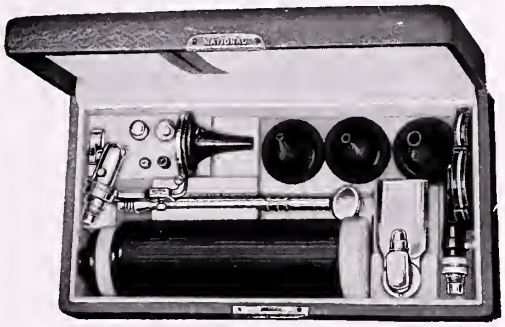

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BENJAMIN WATERHOUSE

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190 ANGELL STREET, PROVIDENCE

Of all the sons of Newport who were distinguished in matters medical, Dr. Benjamin Waterhouse, in the literal sense of the word, was the most noteworthy.

He was born in Newport on March 4, 1754, in a house fronting on Liberty Square. His father was Timothy Waterhouse, a tanner, who originally lived in Portsmouth but removed to Newport where he became a man of considerable prominence, being a Judge of the Court of Common Pleas and later a member of the Royal Council for the Colony of Rhode Island and Providence Plantations. His mother, Hannah Proud, was a niece of Dr. John Fothergill, one of the leading physicians of London. This family relationship had great influence upon the career of Waterhouse, as will be seen later. Both father and mother were Quakers.

He was educated at the school of Dean Berkeley, at Middletown, and states himself that he was much influenced by one Robert Lightfoot, a graduate of Oxford, who was then resident at Newport. One of Waterhouse's schoolmates who lived at his home was Gilbert Stuart, who later became the famous portrait painter. Both boys were interested at that time in painting and it has been stated that each painted a portrait of the other. None of the work of Waterhouse has survived but the portrait of Waterhouse by Stuart now hangs in the Redwood Library in Newport.

After leaving the Berkeley School, Waterhouse at the age of 16 began the study of medicine with Dr. John Haliburton who was a leading physician of Newport. He was, however, so much a sympathizer with England during the troubled times of the Revolution that he was forced to leave his practice and remove to Halifax, N. S. where he subsequently became one of the most prominent medical practitioners.

Read at the one hundred and thirtieth Annual Meeting of the Rhode Island Medical Society, Newport, May 28-29, 1941.

After working under Haliburton for about five years Waterhouse in 1775 sailed for England and went directly to the home of his great uncle, Dr. Fothergill. Here he lived in the family and in later years spoke of the great privilege that was his of sitting at the table, of studying with Fothergill and listening to the words of this wise man. After some time he went to Edinburgh, no doubt acting upon the advice of his grand uncle. Here he was accorded an unusual honor for one so young and a stranger in the city, being made Acting Secretary of the Royal Society. He remained here for three years and after a short time again in London, was sent to the University of Leyden, at that time probably the leading Medical School of the world. He studied in Leyden for four years and obtained the degree of M.D. in 1781, six years after leaving home. He remained in Europe for another year, evidently being well supplied with funds. He travelled extensively and made notable friends, among them being Franklin, John Adams, and John Quincy Adams.

In 1782 he returned to Newport, and began practice. It has been said that he was at that time probably the best educated physician in the United States.

In 1783 the Harvard Medical school was founded. Waterhouse was asked to assist in its establishment and was offered the position of Professor of the Theory and Practice of Medicine. The school opened with only three professors, the other two being Dr. John Warren and Dr. Aaron Dexter. On October 9, 1783, Dr. Waterhouse delivered the Inaugural Address, in Latin, before a brilliant audience of the leaders in the civic, religious and professional life of the community. It was an occasion of more than ordinary significance in the city and state and even in the country, but strange to say no official record of the ceremonies was published until he himself recorded it forty-six years later.

On receiving his appointment as Professor, he removed from Newport where he had brilliant prospects, to Cambridge where he at once became very active in many matters outside of his professorial sphere.

In 1786 and '87 he delivered at RHODE ISLAND College in Providence (now Brown University) a course of lectures upon Natural History — these being the first lectures upon that subject ever to be given in America. They proved to be so popular that they were repeated in Cambridge annually for more than forty years. In connection with them he obtained from Dr. Lettsom of London, who was a colleague of Fothergill, a collection of minerals which was the beginning of the Mineralogical Museum now at Harvard. He was also influential in establishing a Botanical Garden in Cambridge, so that he might have plants to use in his lectures.

We have recounted the significant events in the career of Benjamin Waterhouse, each one of which is of considerable moment, but all of these are overshadowed by his greatest achievement, the introduction of Vaccination into the United States.

Early in 1799 he received from his friend, Dr. Lettsom, whom we have mentioned previously, a copy of a pamphlet written by Dr. Edward Jenner, entitled "Inquiry into the Causes & Effects of the Variolae Vaccinæ on Cowpox," published the year before. The statement is commonly made that this was probably the first copy to come to America. Waterhouse was at once intensely interested in the new idea and on March 12, 1799 published in the Columbian Centinel of Boston a brief note, bearing the unusual title "Something Curious in the Medical Line," giving a description of the new discovery with some original remarks as to its wonderful efficacy against small pox. In after years he wrote "This publication shared the fate of most new discoveries. A few received it as a very important discovery, highly interesting to humanity; some doubted it; others observed that wise and prudent conduct which allows them to condemn or applaud as the event might prove; while a great number ridiculed it as One of those medical whims which arise today and tomorrow are no more." This language of 140 years ago sounds strangely modern.

As has already been intimated, Waterhouse so far as is known, was the first in America to appreciate the significance of the new discovery but after these many years we are led to wonder just why he was the one who had vision. It is undoubtedly fair to say that through his association with Dr. Fothergill he met Dr. John C. Lettsom who sent him the first copy of Jenner's work. But this fact alone does not wholly explain Waterhouse's immediate grasp of such a new method in medicine. We shall never know. It may be only because *he* was the first in America to have direct information, for there were many learned and progressive physicians in America in 1801.

A few weeks after the note in the Centinel, he gave an account of the "new discovery" at a meeting of the American Academy of Arts and Sciences in Boston. This meeting was presided over by John Adams, then President of the United States. It will be remembered that Adams had known Waterhouse in Leyden. At this meeting Adams was much interested and subsequently became an ardent advocate of vaccination.

Having become thoroughly convinced of the efficiency of vaccination, Waterhouse at once made efforts to obtain from England samples of the vaccine virus. Apparently he was at first unsuccessful, but finally received a supply from Dr. Haygarth of Bristol, England. I have been unable to identify this physician. This virus reached Waterhouse in June 1800, more than a year after he had read the pamphlet written by Jenner.

On July 8, 1800, he vaccinated his five year old son, Daniel Oliver Waterhouse, then his three year old son and several other children. These vaccinations were all successful and thus David Oliver Waterhouse bears the distinction of being the first person to be vaccinated in America. We should pause here to remark the daring and the courage of conviction of Waterhouse, who was using an entirely new method in medicine and who chose for his first patient his own son. Undoubtedly he had in mind the terrible scourge of small pox as it was known at that time and was ready to grasp at any means to prevent it. None the less it was a brave man who would dare to expose his own loved ones to a possibility of failure. We cannot but admire him for his steadfastness of mind.

From that time he used every effort to spread the knowledge of vaccination, corresponding at length with President John Adams and with Jefferson. The latter became so convinced of its value that his family and servants were all vaccinated.

The popularity of vaccination spread to Baltimore, New York and Philadelphia, and while there remained a few doubters, within twelve or thirteen years it was generally received as a valuable method of treatment.

Space does not permit an account of many of the rebuffs and criticism which he suffered both from members of the profession and from the laity. We now know that he was a pioneer in this country and that after 140 years he should be acclaimed as the physician who introduced vaccination into the Western Hemisphere. Surely he should be esteemed as one of the greatest benefactors of the people.

Dr. Waterhouse seems to have been unpopular with his colleagues at the Medical School and was the object of much criticism, so much so that in November 1811 formal charges were brought against him by a group of those interested in the School, asserting that he was embarrassing the affairs of the School and that he was wanting in veracity. In February 1812 he defended himself before the Corporation apparently showing that the charges were brought by his personal enemies from jealousy and self interest. On March 11, 1812 the Corporation of Harvard College, not being satisfied with his defense, voted to give Dr. Waterhouse "opportunity to take measures on his part to restore harmony and confidence between the Medical Professors at the Medical School of the University and himself." Apparently nothing came of this, for on May 20, 1812 the Corporation issued a long statement reviewing the whole case, stating that Dr. Waterhouse was not acceptable to the members of the teaching staff and that his connection with the School should cease. Thus ended a period of teaching of nearly thirty years. According to his own statement he received no salary for the first fifteen years and during the later years of his professorship the salary was hardly over four hundred dollars per year. We do not know whether he engaged in private practice but it is probable that he thus eked out an income sufficient to educate his children. We do know that in 1810 he petitioned the Massachusetts Legislature to grant him some pecuniary reward for the time and money expended by him in the propaganda for vaccination. This request bore no fruit and he was bitterly disappointed, writing to Lettsom with whom he had corresponded for years, "For the honor of my country I am ashamed to tell Dr. Jenner how I have been treated by our Legislature respecting remuneration. I have received nothing but abuse."

After leaving the Professorship, Waterhouse was appointed by President Madison to the position of Supervisor of the nine Military Posts in New England. He held office from 1813 to 1820. From that time he devoted himself almost entirely to literary matters. He wrote many articles on medical topics and in addition at least one novel and a scholarly Essay on Junius, and His Letters, of which he attributed the authorship to Lord Chatham. He was a voluminous letter writer, corresponding with many distinguished men both in this country and abroad.

Dr. Benjamin Waterhouse died in Cambridge, October 12, 1846, in his 93rd year and was buried in Mount Auburn Cemetery. It is interesting to note that he cherished the memory of his birthplace and expressed the belief that Newport would one day become the Bath of America, a haven of rest and recuperation for invalids. He often wished that he might return to his old home in his declining years.

Dr. Waterhouse was a member of many organizations both at home and abroad. He was a Fellow of the American Academy of Arts and Sciences, the Philosophical Society of Philadelphia, the Royal Medical Society, the Jennerian Society of London, the Society of Agriculture and Commerce of Marseilles, and the Royal Medical Society of Edinburgh, of which he was Secretary. Dr. Waterhouse was one of the greatest benefactors of the people of the Western Hemisphere.

LUNG INVOLVEMENT SECONDARY TO INFECTIONS OF THE UPPER RESPIRATORY TRACT

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A great deal has been written in the past about secondary lung involvement or extension into the lung field of the common cold, of catarrh, or of sinusitis with post nasal drainage, of the indiscriminate use of nosedrops, especially oil, and of lung abscess following tonsillectomy.

Read at the Newport Hospital, during the one hundred and thirtieth Annual Meeting of the Rhode Island Medical Society, at Newport, May 28-29, 1941.

I became interested in this subject about twelve years ago after watching children with nothing but a slight head cold in the beginning go on to have bronchitis, asthma and pneumonia, and in caring for patients who use nose drops, who get the directions for their use over the radio, from the pamphlet enclosed in every package, or from well meaning friends.

Many of the older writers held to the theory that upper respiratory infections spread to the lung field by way of the blood and lymphatic systems. I do not wholly subscribe to that theory but I know that the lung is involved by direct extension of the secretions from the upper respiratory system and that this occurs at night when the gagging and coughing reflexes are diminished or absent. It also tends to prove that the passage to the stomach is closed and the one to the lung is open. I shall try to prove both in this paper.

Let us take a case of chronic sinusitis with the discharge running down the posterior pharynx. During the day this material is easily expectorated or swallowed because the normal reflexes are present. Now the same drainage continues at night when the person is asleep. But where does it go? During sleep the reflexes of the body are diminished; so are the coughing and gagging reflexes.

The coughing and gagging reflexes are not brought into play while asleep unless there is an irritation sufficiently strong to arouse them. The posterior pharyngeal discharge is not as a rule very irritating for many reasons. It is not foreign to the human body. It is made up of cellular material and fluid and from the same body only from higher up, in the nasal passages or the sinuses. It may or may not contain organisms. This drainage has been going on for some time and the posterior pharyngeal wall and its reflexes have become good friends. It is not uncommon to see long strings of mucous and pus upon the posterior pharyngeal wall with the patient absolutely unconscious of their presence. There is no cough, providing that the material is either non-irritating, or that the gagging reflex threshold is elevated.

Now, let us continue with this drainage from the pharynx to the larynx, trachoea and bronchi. The same holds true here also, that the reflexes are diminished during sleep. So, the drainage continues on its way down into the lung field to produce bronchitis, asthma, bronchial pneumonia or lung abscess.

A lipoid pneumonia from the indiscriminate use of oily nose drops may have started as a pure case of sniffles during which the drops were used to open the nasal passages so that the person could breathe easier. As a rule, nose drops are used freely; frequently from early morning to late at night. Many of these oily nose drops contain a mild irritant such as ephedrine plus a mild anesthetic such as thymol and menthol. During the day the excess of material that drains into the throat can be expectorated, but oily drops when used just before retiring run down from the posterior pharynx into the larynx and diminish the coughing and gagging reflexes because of the mildly anesthetic action of the thymol or menthol and leave a wide open passage right into the lung, depositing the oil in the right lower lobe ready to set up its irritation. This irritation is due not only to the aromatics but also to the vehicle used, generally mineral oil.

I have used the following procedure to demonstrate how the discharge flows into the lung: — With the patient on his back, a soft rubber tube was inserted along the floor of the nose and pushed back to the naso-pharyngeal space but not against the posterior pharyngeal wall. The tube was anchored with adhesive tape. The free end of the tube was then connected by another tube to a funnel, flask or burette containing lipiodol. The container was held about a foot above the level of the patient's nose on a clysis stand. When we were sure the patient was asleep, the pet cock was opened, allowing two or three cc. of the lipiodol to run slowly down the tube, depositing upon the posterior wall of the nasal pharynx. Seven to ten minutes was allowed for this procedure, then a wait of a half hour before repeating the process. This procedure was continued until about one ounce of the lipiodol had run out of the bottle into the naso-pharynx. Two hours after the last lipiodol had run in, X-rays were taken of the lung and there we found this radio-opaque substance—mostly in the right, lower lobe.

I think that this is the first time it has been definitely proven in a human being that drainage from the nasal pharynx flows into the lung field when the patient is asleep. It also proves that the gagging and coughing reflexes are absent or markedly diminished during sleep.

In closing may I make a plea for further work along this line especially by allergists and students of chest pathology.

MEASLES

Harold G. Calder, M.D.
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The cause is still unknown although it is generally thought to be a filterable virus. On this account we have no method of active immunization. Herrman in 1914 inoculated intranasally 165 babies in their fifth month with nasal washings from healthy measles patients. There were no bad reactions and immunity was apparently established. For obvious reasons the method did not become popular. It depended on the fact that babies are practically immune to measles in the first 2 months if their mothers have had it. This inherited resistance gradually fades and is lost at 8 months, except for about 3% of the population who are naturally immune through life.

Passive immunity on the other hand is of great value. Inoculations in the incubation period will either prevent measles or make it milder. This treatment is probably not used enough by the profession because measles is generally considered unimportant: It is true that it is getting milder all the time, perhaps from racial immunity but it is still the cause of about 6% of the deaths under 3 years. The mortality per 100 *reported* cases is around 2%, which makes the real mortality perhaps 1%. Beside the saving of an occasional child, the prevention of complications and uncomfortable symptoms well justifies the procedure.

There are three substances used to modify measles; adult blood, convalescent serum and placental extract.

The blood of any adult who has had measles in childhood contains enough antibodies to protect if enough is injected. 10 to 30 C.C. intramuscularly on the 5th or 6th day of incubation will modify the disease in the great majority of cases. Because of the large size of the injection and the uncertainty of the antibody content, this method is inferior to the others.

Convalescent serum is the ideal method. We have used it here since it was introduced by Dr. Richardson over 20 years ago, and with consistently good results. Six to eight C.C. injected on the 4th or 5th day after exposure (the day of the first patient's rash and the day following) will sometimes prevent the disease entirely. Four to 6 C.C. on the 5th or 6th day of the incubation period will cause a modified measles. There are no disagreeable reactions and its only disadvantage is the difficulty in finding enough donors.

Placental extract has the advantage of being commercially available. While not as satisfactory as convalescent serum it works in 90 to 95% of the cases. There is apt to be some local reaction to it especially if care is not taken to inject it into a muscle. For children under 4 years—2 C.C. on the 5th or 6th day will modify sufficiently. More is needed to prevent measles entirely and a larger dose is essential for older children.

The doses of these agents can not be arbitrarily stated but depend on the size of the patient, the day of exposure and how much protection is desired. Complete prevention should not be our aim in most instances. It is much better to allow a mild attack and thereby secure a lasting immunity. This method is not of value except when there has been a definite exposure, usually to a sibling. The immunity lasts such a short time that we are not justified in using it in questionable contacts or simply because there is an epidemic in the city.

Read before the Providence Medical Association in a panel discussion on "Immunization," May 6, 1940.

IMMUNIZATION AGAINST DIPHTHERIA

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The immunization procedures of diphtheria have been of much interest to me for several reasons. Diphtheria at the present time has been practically eradicated from the areas in which immunization procedures have been carried on. At the present time in Providence, the death rate has been reduced to one death for the years 1937-38-39 from 19 cases and in Pawtucket there have been no deaths from 12 cases in the past three years.

The first work on active immunization was carried on by the late Park and his co-workers in 1913. Toxin antitoxin was used with marked lowering of the mortality. Since that time active immunization against this disease by one of the three methods has been one of the requirements of childhood. One method is toxin antitoxin which is to be preferred for individuals over ten years of age, three doses. The second method is diphtheria toxoid and the third, the alum precipitated toxoid. Toxin antitoxin has been longest in use. Diphtheria toxin antitoxin is made from mature diphtheria toxin but has a sufficient amount of diphtheria antitoxin to

decrease its toxicity and three injections are given of c.c. at weekly intervals. In 1924, Park, Zingher and Schroeder announced a diphtheria toxin which could be changed by toxoid by long standing and gave usually good immunizing results.

In 1924 Ramon also developed a non-toxic diphtheria toxoid by adding formulin. The advantage of toxoid over the toxin antitoxin is that it contains no serum and the only protein constituents is from the meat and peptone used in the broth.

Following the use of toxoid in 1930, Havens and Wells began to perfect an alum precipitating toxoid with the idea of one injection producing an immunity.

Immunity in toxoid develops quite rapidly within six to ten weeks and if a Schick test is done, the vast majority of cases are Schick negative.

There is considerable opinion concerning the value of the one dose method of immunization against diphtheria and the toxoid multiple dose. One large biological research laboratory has maintained from experimental work that one injection of the unmodified toxin is not sufficient to give complete immunization. This statement is made by Schick in procedures on immunization in the book published by the American Academy of Pediatrics. Two injections in modified toxoid are satisfactory. In my own experience, I have employed three doses of the unmodified toxoid, given at three week intervals, which give practically 100% immunity.

The use of toxin antitoxin is slow in development of immunity and there have been few accidents from animal serum.

The one dose alum precipitate does not immunize the individual as was originally thought. The time for the use of whatever method is employed is of importance since nearly all children are susceptible to diphtheria between the age of six months and four years, the mortality being highest between the first and fourth year. Therefore, immunization should be given at about the ninth month. If immunization is given before the ninth month, we are not sure as to whether or not we will secure complete immunity.

In conclusion, toxoid inoculations for the immunization of diphtheria should be given at the ninth month and my opinion is that it should be given in multiple doses of 2-3 injections. Whether the plain or alum precipitate is used is immaterial. The Schick test should be carried out to determine whether immunity is present six months after the immunization.

MATERNAL MORTALITY, 1940

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In 1938 the International Statistical Institute meeting at Paris revised the International List of Causes of Death. The rubrics 140 to 150 deal with diseases of pregnancy, childbirth and the puerperium. The list is presented herewith to show the most recent changes in the classification.

It is interesting to note that under 140, self induced abortion and criminal abortions are not included. These were formerly classed as homicides. There is a finer subdivision of the hemorrhages of pregnancy and of childbirth (143 and 146). This also applies to toxemias of pregnancy 144 and puerperal toxemias 148.

Classification of Maternal Deaths

140b	2
140c	2
142a	1
145	1
146a	2
146b	1
146c	3
147a	1
147b	3
147d	1
148a	2
149a	3
149b	2
150c	1
Total	25
Non-Obstetrical Deaths	6

140b. There were two spontaneous abortions with mention of infection. One occurred in the 6th week of pregnancy. The patient was septic on admission and, after packing, passed the fetus. In spite of adequate chemotherapy patient died of a blood stream infection.

The second in the 14th week of pregnancy and, after an initial diagnosis of pelvic abscess, the possibility of ectopic pregnancy was considered. Operation revealed a right, tubal abscess. The patient died eight hours after operation in shock.

140c. There were two self induced abortions with mention of infection. Both occurred after the use of an unsterilized catheter. Both had adequate chemotherapy, blood transfusions, and supportive treatment, but both died of sepsis.

142a. There was the one case of ruptured ectopic pregnancy in which the patient was treated at home

for one month and on admission showed evidence of genital infection. Laparotomy revealed ruptured ectopic pregnancy with marked hemorrhage. The patient died after a septic course of generalized peritonitis.

145. One case of hydatidiform mole is classified under this rubric. (Other diseases and accidents of pregnancy.) There was amenorrhea, abdominal pain, weight loss, and increase in the size of the uterus inconsistent with the duration of the amenorrhea. On the way to the hospital for a supracervical hysterectomy, the uterus emptied spontaneously. Following the operation the patient died of generalized peritonitis.

146a. There were two cases of placenta previa. Both were primigravida who had no evidence of bleeding until shortly before admission. In one the bleeding was slow but persistent, while in the other the hemorrhage was copious and sudden. Both had manual dilatation of the cervix with version and extraction. One of the cases presented a picture of a kidney shut-down before death. The other died of exsanguination.

146b. One case of avruptio placentae was investigated. The patient had no prenatal care, and, until the day of admission after bleeding five days, had consulted no physician. On admission the patient was bled out. A supracervical hysterectomy was done after six hours. A generalized ooze of blood from all tissues was uncontrollable and the patient died in shock.

146c. In this group were classified three cases of post partum bleeding. In one case the placenta was not delivered after six hours at the time of death. There was no excessive external bleeding, accordto the family, but the terminal picture was that of shock.

The second case was one in which the uterus failed to contract or respond to oxytocics. Just before delivery the patient had a convulsion, the exact etiology of which is unknown.

The third case died sixteen days after delivery. Several severe hemorrhages occurred during this time. After hysterectomy, it was shown that the bleeding site was in the scar of a former classical Cesarean Section which had been eroded by placental attachment.

Presented at the Annual Meeting of the House of Delegates of the Rhode Island Medical Society, Providence, May 8, 1941.

147a. One case died of puerperal pyelitis and pyelonephritis. Death occurred after a nephrectomy. The patient developed the kidney infection in the sixth month and delivered in the seventh month. During this time she received all the prenatal care she had since the beginning of her pregnancy.

147b. Three cases died from general puerperal sepsis. One followed a Cesarean Section after attempted low forceps and an unsuccessful version and extraction. Death occurred on the 9th day.

The second followed a Cesarean Section, death occurring on the eighth day. In this case the surgeon attempted to do a low flap section but was unsuccessful and a classical section was done. The bladder or G. I. tract were not disturbed and the onset of sepsis was not explained by the attending physician.

The third case had prolonged first stage with ineffective pains, discharged from hospital not in labor, returned in 48 hours with fever and high leukocytosis. Membranes intact, no vaginal examinations made. High forceps, macerated stillborn delivered. Cause sepsis.

147d. There was one case of puerperal embolism and sudden death. She died on the ninth day post partum as she got up to sit in a chair for the first time. There was no evidence of infection or phlebitis.

148a. There were two cases of death from puerperal eclampsia. No prenatal information on one of the cases is available but the other had hypertension and albuminuria in the third month. Prenatal care was inadequate, there being only four visits made until admission in the eighth month. Convulsions were ante, intra and post partum and were not controlled by a well rounded therapeutic regime. The other case had increasing blood pressure in early labor and convulsions before and after delivery.

149a. Three cases died from ruptured uteri. The first was in a multipara who had a fairly normal labor without oxytocics. There was sudden, sharp pain and the placenta separated prematurely. The uterus was found to be ruptured on postmortem examination.

The second followed manual extraction of a retained placenta. In this case there was steadily increasing anemia and increasing infection. The uterus was found to be ruptured on postmortem examination.

The third followed a version and extraction in a septic case in which the baby was known to have died about two weeks before the onset of labor. There was no postmortem on this case but the attending physician thought that the consultant had torn the lower uterine segment and possibly the broad ligament in the dilatation.

149b. One case died following a Cesarean Section on the sixth day. Her post operative course was septic. In this case the death was attributable to the section.

Another case under this rubric followed inhalation of vomitus after anaesthesia. This was not a case of over dosage of the anaesthetic agent.

150c. There was one case that died following a transfusion reaction. The indication for the transfusion was gradually increasing anemia after post partum bleeding.

Non-Obstetrical Deaths

Of the six non-obstetrical deaths, one died of pulmonary tuberculosis, one of subacute bacterial endocarditis, one of rheumatic heart disease (reactivated), and three were due to acute cardiac failure. One of the last was antepartum, one intrapartum and one postpartum.

Prenatal Care

Prenatal care of the patients studied has been classified as follows:

Class I. Good prenatal care. It consisted in the patient reporting to the physician in the second month, thorough examination, regular return visits, blood pressure readings and urinalysis.

Class II. Fair prenatal care. It began not later than the seventh month but is not as complete as the foregoing.

Class III. Poor care. This may have begun in the early months and was either not constant or consisted of only a few visits. Some patients had no prenatal care.

In others the classification is not applicable.

Table of Distribution

	Puerperal Deaths	*Non-Obstetrical*	*Total*
Class I	6	1	7
Class II	5	2	7
Class III	4	2	6
None	3	1	4
Not applicable	6	0	6
Not known	1	0	1
Total	25	6	31

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ANNUAL MEETING AT NEWPORT

The one hundred and thirtieth Annual Meeting of the Rhode Island Medical Society, held at Newport on Wednesday and Thursday, May 28-29, was an undoubted success. The registration was large, the weather perfect, the clinics well arranged and well attended, the scientific papers of unusual value and interest.

Wednesday morning, beginning at 10:30, clinics were given by members of the staff of the Newport Hospital. The clinics were followed by an excellent luncheon.

Wednesday afternoon, the first scientific session was held at the Hotel Viking. Dr. B. Earl Clarke, Pathologist at the Rhode Island Hospital, read the first paper, with the subject, "Intercapillary glomerular sclerosis or Diabetes-nephrosis syndrome." This paper was illustrated by projection of a re-

markable series of microphotographic slides in color. The paper on "X-ray Localization of the Placenta and the Clinical Application," by Drs. Bertram H. Buxton and Charles Potter, was read by Dr. Potter. In the discussion, Dr. Walter S. Jones paid a tribute to Dr. Russell Hunt for the excellence of the X-ray work which accompanied this study. Dr. William P. Murphy, Associate in Medicine at Harvard Medical School, spoke on "The Management of the Patient with Chronic Leukemia." This paper was illustrated by projection of another series of excellent microphotographic slides. In the discussion, Dr. Alex M. Burgess accentuated the value of quality rather than quantity in estimation of longevity. Dr. Peter Pineo Chase quoted Oliver Wendell Holmes' statement that "Nothing prolongs longevity like a chronic disease." Members of the Providence Medical History Club presented a symposium of biographical sketches of eminent Newport lights in medicine. Dr. Roland Hammond spoke on "Dr. William Hunter," Dr. Herbert G. Partridge presented "Dr. Benjamin Waterhouse," Dr. John E. Donley covered "Bishop Berkeley's Sojourn in Newport," Dr. Wilfred Pickles spoke on "Dr. Henry Turner of Newport."

Wednesday evening, Dr. Frank H. Lahey, Chief of the Lahey Clinic and President-Elect of the American Medical Association, gave the Address on "Developments in Medicine and Surgery."

Thursday morning, while operative clinics were given at the U. S. Naval Hospital by Staff Surgeons, William A. Stoops and Paul K. Perkins, a demonstration on industrial and aviation medicine was given by men from the Naval Hospital, the Naval Torpedo Station, from Quonset Point and New London Submarine Base. Many of the guests spent the forenoon in an inspection of the excellently appointed hospital. Some visited the U. S. S. Constellation, moored at the Naval Training Station. Following the clinics and demonstrations, luncheon was served at the hospital.

Thursday afternoon, at the Hotel Viking, Professor Charles Stewart of the Biological Department of Brown University spoke on "Paracolon Bacteria and Their Possible Etiological Significance in Gastro-Intestinal Disturbances." Dr. Leland S. McKittrick, of the Massachusetts General, the New England Deaconess, and the Palmer Memorial Hospitals and Instructor in Surgery at Harvard Medical School, gave "The Diagnosis and Treatment of Cancer of the Right Colon." Dr. W. O. Thompson, of the Presbyterian Hospital and Rush Medical College of the University of Chicago, spoke on "Sex Hormones; Clinical Application." These papers were illustrated with lantern slides.

Dr. Lucius C. Kingman, President of the Rhode Island Medical Society, presented the Annual Address with the subject, "A Generation of Surgery." Following this address, Dr. Frederic V. Hussey was inducted into office as the President for 1941-42.

Thursday evening, the Annual Dinner was served at the Hotel Viking. Dr. Samuel Adelson, the Anniversary Chairman, introduced as speaker Mortimer A. Sullivan, Associate Justice of the Rhode Island Superior Court at Newport.

The registration at the Annual Meeting was 265, including 174 fellows of the Society, 26 wives of members and 65 other guests. Attendance at the Newport Hospital was 60, at the U. S. Naval Hospital, 130.

Commercial exhibits, usually an important feature of the convention, this year were a disappointment to both exhibitors and guests because of the inadequate space allotted for them.

The ladies who attended the convention agree that they were royally entertained. Mrs. Samuel Adelson, who had charge of the program for women, is to be congratulated on the success of this feature of the convention. Wednesday morning there was a visit to many of the historic spots in Newport. The Vernon House and the Wanton-Lyman-Hazard House were open for inspection. The ladies were welcomed by the Rector at Old Trinity and by the Rabbi at Touro Synagogue. At the luncheon, served at LaForge Cottage, Mrs. Douglas P. A. Jacoby gave the address of welcome. Wednesday afternoon, the ladies visited the beautiful Van Buren Gardens. Thursday morning they went on the Ocean Drive. In the afternoon they attended a Dress Parade at the Naval Training Station and inspected U. S. S. Constellation. Tea was served in the foyer at Hotel Viking. It is to be regretted that, because of lack of advertisement, so few of the ladies were able to enjoy all of the entertainment which had so generously been provided for them.

So enjoyable was this meeting that some members of the Society are already planning for another meeting at Newport four years from now. For the outstanding success of the Newport Meeting, the Rhode Island Medical Society is indebted to the local Committee of Arrangements, headed

by Dr. Norman M. MacLeod, to the Committee of Arrangements for Women, in charge of Mrs. Samuel Adelson, to the Newport Chamber of Commerce for its new booklet on "Historic Newport," to the Hotel Viking which provided headquarters for the convention, to the Newport Historical Society and to the many others whose cooperation contributed to the pleasure and interest of the meeting.

CORRESPONDENCE

STATE OF CONNECTICUT
DEPARTMENT OF HEALTH
HARTFORD

May 12, 1941

Dear Doctor Miller:

Reviewing the reprint of the "Tribute to State Health Director," article appearing in the December, 1940, RHODE ISLAND MEDICAL JOURNAL, I have noted on page 3 the following statement:

"Under his direction, Rhode Island in 1929 was the first state to allocate deaths to the place of residence of the decedent, and births to the residence of the mother."

I am sure you will be interested in another quotation from page 5 of the 1927 State of Connecticut Registration Report, being the eightieth such publication.

"Certain important changes are for the first time included in this volume. The major change is the allocation of all deaths to the residence of the decedent, and the allocation of all births to the residence of the mother."

The allocation of births and deaths has indeed been of great value to this state and in continuation of the program, on page 3 of the reprint, I note that Rhode Island has also benefited by a system of allocation. Under the circumstances it may be fitting if notice might be made in the RHODE ISLAND MEDICAL JOURNAL that Connecticut began its system of allocation in 1927.

Sincerely yours,

STANLEY H. OSBORN
Commissioner

RHODE ISLAND MEDICAL SOCIETY

Minutes of the One Hundred and Thirtieth Annual Sessions

Continued from page 120

Report of the Secretary

The Rhode Island Medical Society has held the regular meetings of the Council and House of Delegates, the Annual Scientific Meeting last June, and a meeting in March which was devoted to a discussion of military and naval affairs.

The speakers at the March meeting were Captain Joseph A. Biello, M.C., U. S. Navy, who spoke on "The Duties and Responsibilities of the Medical Officers of the U. S. Navy" and Colonel H. P. Carter, M.C., U. S. Army, who talked on "The Organization and Activities of the Army Medical Department".

Your Secretary still feels that the mid-winter meeting is helpful in bringing the members of the County Societies in closer touch with each other in these times when there are so many problems to be solved.

For the moment, at least, and probably due to the war, there is a great deal less social and economic legislation being pressed upon us. It has been a relatively quiet year. However, we expect more at a later date.

Since May 16, 1940, the following changes in membership have occurred:—

18 new members have been added.
2 members have been reinstated.
8 members have died.
1 member has resigned.
1 member has been dropped.
Present membership 496.

I wish to thank the Council and House of Delegates for their cooperation, kindness and support, not only this year, but during my term as your Secretary.

Respectfully submitted,

GUY W. WELLS, M.D.
Secretary

Committee on the Annual Meeting
(Committee on Arrangements)

Plans for the Annual Meeting, to be held in Newport on Wednesday and Thursday, May 28-29, 1941, are virtually completed.

Headquarters will be at the Hotel Viking. Arrangements are to be made with the local police, whereby cars exhibiting the sticker of the Society will have adequate parking facilities. The sticker will also admit to the Naval Hospital grounds. These will be given out at the time of registration.

On Wednesday, there will be a morning clinic at the Newport Hospital, followed by afternoon and evening sessions at the hotel.

Thursday morning, there will be a clinic at the Naval Hospital, followed by an afternoon session at the hotel. In the evening will be held the Annual Dinner.

The subcommittee on Commercial Exhibits has arranged a strong showing. This has been facilitated by the fact that our dates this year do not conflict with those of the A.M.A. In addition, it is planned to have an exhibit from the Tumor Clinic of the Pawtucket Memorial Hospital, and possibly one other medical demonstration.

In addition to organizing a strong scientific program, the local Newport group has made every effort to make the Society comfortable socially. There are plans for entertainment of the wives, including an historical tour of the city and a visit to the Naval Station.

Although your committee feels unable to assume responsibility for housing arrangements, we are cooperating with the hotel management in an effort to eliminate as many difficulties as possible. Last week a letter of prospectus was mailed to all members, outlining the program, rates, etc. In less than a week, we have had replies from over 20%, in spite of the fact that the meeting is still three weeks away.

With the same cooperation from the rest of the membership, there is every reason to expect that the Annual Meeting will go off smoothly, and to the enjoyment and profit of the entire Society.

Respectfully submitted,

WALTER S. JONES, M.D.,
Chairman

Public Health Committee

This is the first report of the Committee on Public Health since its appointment by the President on January 24, 1941. It is made up of the Chairmen of the following five sub-committees, — Charles F. Gormly, Industrial Health; Herman C. Pitts, Cancer; Stanley Sprague, Public Health Clinics; Henry E. Utter, Child Health; John G. Walsh, Maternal Mortality. No formal meetings of this Committee have been held as no new business has been offered for its consideration. However, as organized, it is to be anticipated that the function of the Committee will be of increasing importance particularly in its advisory and consultative capacity.

Respectfully submitted,

CHARLES F. GORMLY, M.D.,
Chairman

Sub-Committee on Industrial Health

Several meetings of this Committee have been held during the past year and a close contact has been established with the Industrial Commission of the Rhode Island Department of Public Health.

On January 13th and 14th, 1941, your Chairman attended the Third Annual Congress on Industrial Health sponsored by the Council on Industrial Health, American Medical Association at the Palmer House, Chicago. This meeting was devoted to general sessions, clinics and demonstrations of Industrial Medicine, Hygiene, etc. Among the important problems considered was the problem of the Industrial physician in National Defense and the availability of trained Industrial Health personnel. At this meeting under the title "Aging as a Problem of Industrial Health," Dr. Edward J. Stieglitz, Research Associate in Gerontology, National Institute of Health, U. S. Public Health Service, described this newest specialty in the medical field.

At the present time this Committee has under investigation a claim made by the publishers of Medical Economics that "Industrial plants in Rhode Island have worked one physician against another in order to obtain lower charges for services. To meet this situation local physicians have formed a club which expels any member who accepts an offer of this character."

With the increasing share taken by Rhode Island industry in general in the National preparedness program it is to be expected that the Industrial Medical program of the Rhode Island Medical Society will be of increasing importance.

Respectfully submitted,

CHARLES F. GORMLY, M.D.,
Chairman

Report of the Treasurer

The following is the Annual Report of the Treasurer for the year 1940.

RHODE ISLAND MEDICAL SOCIETY
IN ACCOUNT WITH J. E. MOWRY, M.D., TREASURER

Cash on Hand January 1, 1940	$2,861.71
Outstanding checks	23.50
	$2,838.21
Annual Dues	4,485.00
Donations	828.14
Harris Fund	259.00
Terry Fund	67.20
Davenport Fund	62.30
Ely Fund	86.92
Morgan Fund	30.10
Endowment Fund interest transferred to Peoples Savings Bank	99.80
Exhibits, Annual Meeting, Donation	710.00
	$9,466.67
Net cash profit to R. I. Medical Society from Exhibits	$555.18
Collation and Annual Dinner Expenses	606.00
Printing and Postage	242.99
Gas	49.44
Electricity	103.35
Fuel	$647.50
Telephone	127.36
City Water	22.89
House Supplies and Expenses	330.17
House Repairs	401.10
Librarian	1,660.00
Janitor	840.00
Journals, Ely and Terry Funds	79.88
Davenport Fund, 3 books	9.98
Safe Deposit	6.60
Treasurer's Bond	25.00
Dues, Medical Library Association	15.00
Delegate, American Medical Association	100.00
Expenses, Committees and Exhibits	163.97
Insurance	230.25
Medical Directory, 2 copies	30.00
Dr. Rogers' Portrait	20.00
Rhode Island Medical Journal	243.00
Endowment Fund interest transferred to Peoples Savings Bank	99.80
Library Assistant	1,060.00
	$7,114.28
Cash on Hand to Balance	2,352.39
	$9,466.67

Respectfully submitted,
JESSE E. MOWRY, M.D.,
Treasurer

J. W. C. Ely Fund

January 1, 1940	
37 shares Rhode Island Public Service Co.	$1,071.67
Interest	74.00
11⅕ new shares Common Stock, Mechanics National Bank	280.00
Shares changed to 11 76/100: 76/100 sold	12.92
Interest in default	
	$1,438.59

January 1, 1941	
37 shares Rhode Island Public Service Co.	$1,071.67
11 new shares Common Stock, Mechanics National Bank	206.25
Decrease in value, Mechanics National Bank Stock	73.75
Paid Rhode Island Medical Society for Journals	86.92
	$1,438.59

Endowment Fund

January 1, 1940	
16 shares National Bank of Commerce & Trust Co.	$1,200.00
Interest	48.00
74 shares Providence Gas Co.	906.50
Interest	51.80
Peoples Savings Bank	3,598.38
Bank Interest	72.32
	$5,877.00

January 1, 1941	
16 shares National Bank of Commerce & Trust Co.	$1,200.00
74 shares Providence Gas Co.	906.50
Peoples Savings Bank	3,770.50
	$5,877.00

E. M. Harris Fund

January 1, 1940		January 1, 1941	
2,000 A-NY & B-NY Realizing Corp. Debentures 5½%	$2,000.00	2,000 A-NY & B-NY Realizing Corp. Debentures	$2,000.00
4 shares stock A-NY & B-NY Realizing Corp.	.....	4 shares stock A-NY & B-NY Realizing Corp.	.....
Payment on principal of above debentures and interest	51.00	2,000 General Public Utilities	1,980.00
2,000 General Public Utilities Co. 6½%	1,980.00	26 shares Nicholson File Co.	1,040.00
Interest	156.00	Paid R. I. Medical Society for Repairs on Building	259.00
26 shares Nicholson File Co.	1,040.00		
Interest	52.00		
	$5,279.00		$5,279.00

Frank L. Day Fund

January 1, 1940		January 1, 1941	
3,000 Canadian National Railway Co.	$2,979.75	3,000 Canadian National Railway Co.	$2,979.75
Interest	135.00	Paid for Medical Books	112.10
Industrial Trust Company	498.29	Industrial Trust Company	521.19
	$3,613.04		$3,613.04

Herbert Terry Fund

January 1, 1940		January 1, 1941	
96 shares Providence Gas Co.	$1,152.00	96 shares Providence Gas Co.	$1,152.00
Interest	67.20	Paid Rhode Island Medical Society for Journals	67.20
	$1,219.20		$1,219.20

James R. Morgan Fund

January 1, 1940		January 1, 1941	
43 shares Providence Gas Co.	$526.75	43 shares Providence Gas Co.	$526.75
Interest	30.10	Paid Rhode Island Medical Society for Expenses	30.10
	$556.85		$556.85

James H. Davenport Fund

January 1, 1940		January 1, 1941	
89 shares Providence Gas Co.	$1,068.00	89 shares Providence Gas Co.	$1,068.00
Interest	62.30	Books purchased	9.98
Balance on hand	558.73	Balance on hand	611.05
	$1,689.03		$1,689.03

Cataloguing Fund

January 1, 1940		January 1, 1941	
Providence National Bank	$20.92	Providence National Bank	$20.92

Participation Account

January 1, 1940		January 1, 1941	
Providence Institution for Savings	$592.59	Providence Institution for Savings	$604.49
Interest	11.90		
	$604.49		$604.49

Report of the Trustees of the Fiske Fund
One Hundred and Sixth Year

Trustees

Lucius C. Kingman, M.D.
Frederic V. Hussey, M.D.
John Paul Jones, M. D.

Secretary to the Trustees

Wilfred Pickles, M.D.

May 27, 1941—First Meeting of the year

The meeting was held at the home of Dr. Frederic Hussey and was attended by Drs. Kingman, Hussey, Jones and Pickles. The Secretary drew the attention of the Trustees to the fact that the funds are on deposit by court order and that no change is possible, but that this fact has cut the income from over four hundred dollars a year to less than one hundred dollars annually. There are accumulated dividends enough to permit the Fund to carry on its activities for some years, but, if conditions remain the same, some curtailment will be necessary.

It was voted to award a premium of two hundred and fifty dollars to an essay entitled "The Surgical Treatment of Peptic Ulcer," bearing the motto "A surgical procedure, for any given pathologic condition, must fulfill the following requirements if it is to be successful; satisfactory immediate recovery; brief and uncomplicated convalescence; early return to usefulness; and permanency of cure." On opening the envelope accompanying the disseration it was found that the author was

Dr. Adolph W. Eckstein of Providence

In view of the financial condition of the fund, it was voted that the emolument of the Trustees be returned to the Fund.

The Secretary was directed to arrange for the publication of the current Essay. He was further instructed to arrange for the care of Dr. Fiske's grave.

It was voted that a prize of two hundred dollars be offered for the best Essay to be submitted before May 1, 1942, on the subject "Chemotherapy and its Clinical Applications," the conditions of the contest to remain as at the present.

The usual following financial report was submitted by the Secretary and was approved by the Trustees.

Respectfully submitted for the Trustees,
Wilfred Pickles, M.D.
Secretary to the Trustees of the Caleb Fiske Fund.

Committee on Education, State and National

Herewith is submitted the report of the Committee on Education of the Rhode Island Medical Society for the year commencing June 1, 1940.

The fifteen-minute radio talks which have now been running continuously since December 1938, over Station WPRO every Sunday afternoon at 1:30 P. M., have been continued without letup, and it is apparent from the many letters and requests for copies of talks that our audience is a growing and enthusiastic one. Forty-seven radio talks have been given in the past year of which the following is a list:

72. May 19—Epilepsy
Dr. W. Merrill, Washington, R. I.
73. May 26—Appendicitis
Dr. S. Adelson, Newport, R. I.
74. June 2—Coronary Heart Disease
Dr. C. Leech, Providence, R. I.
75. June 9—Hemorrhoids
Dr. E. Bowen, Providence, R. I.
76. June 16—Modern Conception of Burns
Dr. M. Scanlon, Newport, R. I.
77. June 23—The Care of Your Hair
Dr. F. Ronchese, Providence, R. I.
78. June 30—What You Should Know About Diabetes
Dr. L. Kramer, Providence, R. I.
79. July 7—Radium, Its Present Day Uses
Dr. J. Eddy, 3rd, Providence, R. I.
80. July 14—Your Child in Hot Weather
Dr. F. Jacobson, Providence, R. I.
81. July 21—Facial Palsies
Dr. L. Senseman, Saylesville, R. I.
82. July 28—Allergy
Dr. F. Chafee, Providence, R. I.
83. Aug. 4—Varicose Veins
Dr. J. Dziob, Providence, R. I.
84. Aug. 11—Eye Strain
Dr. F. Dimmitt, Providence, R. I.
85. Aug. 18—Tonsils and Your Health
Dr. C. Dotterer, Newport, R. I.
86. Aug. 25—Your State Laboratory
E. Staff, Providence, R. I.
87. Sept. 1—High Blood Pressure, Its Surgical Treatment
Dr. S. Goldowsky, Providence, R. I.
88. Sept. 8—Fracture of the Hip
Dr. H. Harris, Providence, R. I.
89. Sept. 15—Gout
Dr. C. Hathaway, Wakefield, R. I.
90. Sept. 22—Surgical Conditions of the Foot
Dr. A. Hardy, Providence, R. I.
91. Sept. 29—Our Public Health Problems
L. Round, Ph.D., Providence, R. I.

92. Oct. 6—The Problem of Hernia
Dr. D. Freedman, Providence, R. I.
93. Oct. 13—Arthritis, Its Causes and Treatment
Dr. R. Luft, Providence, R. I.
94. Oct. 20—The Importance of Anesthesia
Dr. J. Hayward, Providence, R. I.
95. Oct. 27—Industrial Surgery
Dr. V. Monti, Providence, R. I.
96. Nov. 3—Athlete's Foot
Dr. C. Sawyer, Providence, R. I.
97. Nov. 24—Tuberculosis
Dr. F. Merlino, Providence, R. I.
98. Dec. 8 — The Physician and Medical Preparedness
Dr. H. DeWolf, Providence, R. I.
99. Dec. 15—Appendicitis
Dr. J. Belliotti, Providence, R. I.
100. Dec. 22—Children's Colds
Dr. H. Calder, Providence, R. I.
101. Jan. 5—The Business Side of A Hospital
Dr. D. Richardson, Providence, R. I.
102. Jan. 12—Cancer of the Stomach
Dr. W. Davis, Providence, R. I.
103. Jan. 19—Low Back Pain
Dr. R. Henry, Pawtucket, R. I.
104. Jan. 26—Pneumonia
Dr. C. Gormly, Providence, R. I.
105. Feb. 2—Chemotherapy
Dr. H. Campbell, Pawtucket, R. I.
106. Feb. 9—Headache
Dr. H. Sanborn, Providence, R. I.
107. Feb. 16—Diet and Health
Dr. E. Field, Providence, R. I.
108. Feb. 23—Buerger's Disease
Dr. P. Geller, Newport, R. I.
109. Mar. 2—Deafness
Dr. G. McCurdy, Providence, R. I.
110. Mar. 9—Eyes in Health and Disease
Dr. H. Stephens, Providence, R. I.
111. Mar. 16—Some Remarks about Vitamins
Dr. E. Wing, Providence, R. I.
112. Mar. 23—The Importance of the X-ray
Dr. P. Batchelder, Providence, R. I.
113. Mar. 30—The Nurse and the National Emergency
Miss Sally Hall, Providence, R. I.
114. Apr. 6—Behavior Problems in Childhood
Dr. A. Ruggles, Providence, R. I.
115. Apr. 13—Modern Methods of Diagnosis
Dr. J. Kenney, Pawtucket, R. I.
116. Apr. 20—Carbon Monoxide Poisoning
Dr. R. Abbate, Providence, R. I.
117. Apr. 27—The Problem of Goitre
Dr. C. Ashworth, Providence, R. I.
118. May 4—Present Day Treatment of Burns
Dr. F. Hanley, Rumford, R. I.

2,521 letters have been received by your committee from the general public requesting copies of these talks and this same number have been mimeographed and mailed to the radio audience. There are seven who call for a copy of each lecture. This regular mailing list includes Miss Macdonald at the Public Health Library; Mr. Chapman from the Y. M. C. A.; Mr. Bartley from the R. I. Pharmaceutical Society; and a gentleman from the Red Cross. Many of the letters received contain not only requests but expressions of appreciation. One of the lectures this year received not only 65 requests but 12 postcards and 4 letters which were merely congratulatory.

It is the belief of your committee that these radio talks should again be continued as in the past. We wish to express our thanks to Miss Dickerman and and her associates and to Mr. John Farrell, Executive Secretary of the Providence District Society, for the work and assistance which they have rendered to the committee. We wish also to express our thanks to Station WPRO for its courtesy in giving us time, to Blanding & Blanding, Inc. for the advertising which has been freely contributed, and to the many members of the profession who have by their cooperation and suggestions been of invaluable aid.

Respectfully submitted,
JESSE P. EDDY, 3RD, M.D.,
Chairman

Trustees of the Rhode Island Medical Library Building

A meeting of the board of Trustees was held on July 17, 1940. At this meeting it was voted to redecorate the reading room. This redecorating was done during September.

Dr. Partridge was appointed as a committee of one to consider the matter of a new bookcase with glass doors and a secure lock for the safe keeping of valuable books. This case has since been built and placed in the reading room.

Also at the meeting it was voted to have a photograph of Dr. Frederick T. Rogers copied and enlarged. This has been done and the photograph has been framed. It is now hanging on the walls of the reading room.

New lights for the reading room are under consideration.

Respectfully submitted,
JOHN P. JONES, M.D.,
Chairman

Committee on Social Welfare

This committee has had one meeting. Those present were Drs. Burgess, Young and Buffum and Mr. Glen Leet, the Public Assistance Director, met with us.

The object of the meeting was to discuss the medical care of the S. U. R. recipients and to decide how we could help Mr. Leet improve this service.

It was decided that this committee could be of help in supervising the program of medical care if this program was under the direction of a physician as medical director.

It was also decided that the chairman meet with Mr. Leet and outline the changes that in their opinions should be made and then this outline be presented at the next committee meeting for discussion.

The chairman and Mr. Leet have met five times and have drawn up such an outline. As yet arrangements have not been made for the employment of a medical director.

At present the Department of Public Assistance pays $2.00 a day to the hospitals for hospital care of S. U. R. recipients. The committee recommends that the Rhode Island Medical Society ask the Department of Social Welfare to raise this payment to $4.00 a day.

Respectfully submitted,

William P. Buffum, M.D.,
Chairman

Committee on State Policies of Public Health

Shortly after the first of January the Policy Committee was informed indirectly that the Governor would be pleased to consult with authorized representatives of the Rhode Island Medical Society in regard to public health matters. A meeting of the Policy Committee was called by Dr. Hussey, then chairman, and the meeting was held at the Library Building. After free discussion it was voted to recommend to the Governor that no change be made in the office of Director of Public Health, basing its recommendation on the behalf that continuity of policy in that department was essential for efficiency. It was considered better as a matter of practical politics not to insist on its previous recommendation that the Director of Public Health have a degree of doctor of medicine as well as long experience in public health work. It was also considered wise that the initiative come from the Governor. He has not, up to the present time, sought the co-operation of the Rhode Island Medical Society.

After consultation with the President of the Society the present Chairman wrote a letter to the Governor calling his attention to the fact that, in the bill designed to affect the re-organization of the state government, there was no provision that the proposed Director of State Hospitals and Infirmaries should hold the degree of Doctor of Medicine and recommending that such change be incorporated. He also offered the co-operation of the Medical Society in any matters concerning public health. At the present time this letter remains unanswered.

Respectfully submitted,

Edward S. Brackett, M.D.,
Chairman

Sub-Committee on Child Health

The Sub-committee on Child Health has functioned under the pro-existing title of the Child Health Relations Committee. This Committee further serves as one appointed by the American Academy of Pediatrics.

The object of this committee is to assist in the projects of the Rhode Island Child Health Bureau.

During the past year contact has been made with hospitals throughout the state relative to the matter of the care of premature babies in order that the mortality in this group may be still lowered. It has been suggested to the obstetrical departments of the various hospitals that a box equipped with apparatus for heating the same and the provision of oxygen to be used for the transportation of premature infants from their homes when born there to the hospitals. Such boxes are being provided by the Child Health Bureau.

A further activity has consisted in the request to hospitals that all new born infants be given a dose of Vitamin K at the time of birth. Such a procedure will eliminate the incidence of hemorrhagic disease of the new born. Some hospitals have expressed their willingness to co-operate in this matter.

During the year the American Legion at the instigation of your committee have made an investigation of the theatres throughout the state relative to their care of children who attend such

theatres unattended. Also this investigation has included the matter of fire hazards in these theatres.

Your committee has met with Dr. Horan in the matter of securing the cooperation of the Department for the care of Crippled Children for the children requiring care and hospitalization for rheumatic heart disease. Since this meeting there has been much public agitation in this matter and it is hoped that in a very short time that this type of child will be dealt with by the same department which includes orthopedic cripples.

Respectfully submitted,

HENRY E. UTTER, M.D.,
Chairman

PROVIDENCE MEDICAL ASSOCIATION

April Meeting

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, April 7, 1941. The meeting was called to order by President Danforth at 8:30 P. M. The records of the previous meeting were read by the Secretary.

The Secretary read a communication from the Director of the Business Men's Club of Providence Y. M. C. A. relative to the physical recreational facilities available to physicians of the community, and another communication from the Winthrop Chemical Company, Inc., relative to the tablets of Sulfathiazole-Winthrop which were accidentally contaminated with phenobarbital and were issued for public consumption.

The Secretary reported that the executive committee recommended for election to membership Dr. Joseph A. St. Angelo. It was moved, seconded, and passed that Dr. St. Angelo be elected to membership.

In the absence of Dr. Robert M. Lord, Chairman of the Committee on Pre-School Examination, Dr. Thomas J. Dolan read a brief report of the work of the pre-school committee in its plan for the annual check-up of all Providence School children who will enter school for the first time next Fall.

The President announced that the tribute to the late Dr. John J. Kenney which has been prepared by Drs. William S. Streker and William R. McGuirk, had been transmitted to the executive secretary and placed on file.

The obituary tribute to the late Dr. Charles V. Chapin, which had been prepared by Drs. John M. Peters and Dennett L. Richardson, was read by Dr. Peters and then placed on permanent file.

An explanation of the recent cancer legislation which requires the reporting of the disease upon diagnosis by any doctor or hospital superintendent to the State Health Department was given by Dr. Herman C. Pitts, Chairman of the Cancer Committee of the State Medical Society.

Dr. Danforth appointed Drs. Charles E. V. Kennon and John F. Ferguson as a committee to prepare an obituary tribute to the late Dr. Harry S. Flynn.

The president introduced Dr. Philip D. Wilson, Surgeon-in-Chief, New York Hospital for Ruptured and Crippled, who presented the topic "Medical and Surgical Work in Great Britain." Dr. Wilson described in interesting detail his experiences in England during the fall of 1940. He recounted his experiences during the air raids, and described the various types of bombs used and the defense measures that were developed. He spoke in particular about his experiences in treating wounds resulting from high explosives, particularly compound fractures. The basis of his treatment was skeletal traction and the local use of sulfathiazole which, in his experience, has been remarkably effective against gas bacillus infection. He ended his talk by showing colored moving pictures illustrating the points under discussion. The paper was discussed by Drs. Gregory, Pitts, Wells and Gormly.

The meeting adjourned at 10:35 P. M. Collation was served. Attendance 160.

Respectfully submitted,

FRANK B. CUTTS, M.D., *Secretary*

NEWPORT COUNTY MEDICAL SOCIETY

May Meeting

The regular meeting of the Newport County Medical Society was held on Tuesday, May 13, 1941, at 8:30 P. M. at the Newport Hospital. Dr. Samuel Adelson presided. Minutes of the previous meeting were read and approved. Dr. Charles Barrus Coppi of Jamestown, Rhode Island, was elected to membership.

Communications were received from the Board of Recreation Commissioners relative to examinations of boys and girls in gymnasium classes and in other athletics throughout the city. It was moved to accept the communication and further action will be taken on this at a later meeting.

Dr. Norman MacLeod spoke at length on the good progress being made towards what appears to be an interesting annual meeting of the State Medical Society. It was voted to appropriate $25.00 from the society funds for a golf prize to be given to the winner of a tournament to be arranged by Dr. Dotterer.

Dr. Adelson then introduced the speaker of the evening, Dr. William Dameshek of Boston, who took for his subject, "Blood Diseases." The speaker covered the subjects of: 1. Effects of sulfonamides on the blood; 2. Leukemias; 3. Gold; 4. Anemias of children; 5. Value of plasma in blood transfusions; 6. Blood grouping of infectious agranucytosis.

An important point brought out in his talk was that a lowered total white count in patients treated with the sulfonamides did not call for discontinuance of the drug where the drug was indicated for infection unless there was a true absence of polys. Dr. Dameshek gave a very fluent and instructive talk which was well received and followed by a general discussion.

The meeting adjourned at 10:45 P. M., followed by collation.

Respectfully submitted,

Alfred M. Tartaglino, M.D.,
Secretary

OBITUARY

HARRY SHERMAN FLYNN, M.D.

Harry Sherman Flynn, M.D., was born in Woodstock, Connecticut, July 14, 1868, a son of the late Francis W. and Louisa B. (Olney) Flynn and a member of one of the oldest colonial families in New England, his paternal ancestors having settled in Roxbury, Massachusetts, in the Colonial period, and later moved to Woodstock, Connecticut, in 1686.

Dr. Flynn attended the elementary school of the town and later the Woodstock Academy. After four years in business he entered Harvard Medical School in 1889 and was graduated in 1893, and he began the practice of medicine in Providence that year.

He was one of the first medical men to devote much time and effort to industrial medicine, and he has been physician in charge of the dispensary at Brown & Sharpe Mfg. Company for the past 26 years. He was also medical examiner for the Prudential and Connecticut General Life Insurance Companies.

He was the oldest surviving member of the General Putnam Lodge of Masons of Woodstock, and he was a member of the Sons of the American Revolution. He belonged to the Rhode Island Medical Society, the Providence Medical Association, the American Medical Association and the Rhode Island Medico-Legal Association.

Dr. Flynn died at the Rhode Island Hospital March 20, 1941, of an embolus following an accidental fracture of the neck of the femur.

He was of a quiet, genial nature, of kindly friendliness to his patients and colleagues in the medical profession. He will be missed sadly by the physicians of Providence and vicinity.

C. E. V. Kennon, M.D.
John B. Ferguson, M.D.

BOOK REVIEW

Synopsis of Diseases of the Heart and Arteries. By George R. Herrmann, M.S., M.D., Ph.D., F. A. C. P. Second Edition, pp. 468, with 91 illustrations and three color plates. Cloth, $5.00. The C. V. Mosby Company, St. Louis, 1941.

The second edition of this small but comprehensive volume contains reviews of new ideas and developments, chapters on peripheral vascular disease, on examination of recruits, and on estimation of risk in respect to surgical and obstetrical procedures.

As in the first edition the practical aspects of the study and treatment of cardiovascular disease are stressed. The most generally accepted methods, classifications and therapies are adequately presented, colored by a minimum of the author's personal enthusiasms. There is a commendable simplicity and brevity throughout. There is no attempt to settle controversial points or to review the entire literature; rather the book is what its title indi-

cates, a synopsis. Among the several first class books dealing with cardiovascular disease this deserves a place, not as a great reference work, not as a classic on clinical heart disease, not as the authority on experimental evidence but as a practical and reasonably complete guide for the practitioner.

CLIFTON B. LEECH, M.D.

HEMORRHAGIC DISEASES. PHOTO-ELECTRIC STUDY OF BLOOD COAGULABILITY by Kaare K. Nygaard, former Fellow in Surgery, Mayo Foundation, former Assistant Surgeon, the University Clinic, Oslo, Fellow of the Alexander Malthe Foundation for Research in Medicine, Surgery and Gynecology; 320 pp. Cloth, $5.50; St. Louis; The C. V. Mosby Company, 1941.

This book of 315 pages of text and 5 pages of index is well written and has many diagrams, charts and tables for illustration. Adequate references are supplied at the end of each chapter. There are three main divisions of the material into technical methods, experimental investigations using the photelgraph, and clinical material with discussion of hemorrhagic diseases.

The photoelectric method of examining the coagulation of blood avoids the errors introduced by visual observation or the mechanical influences otherwise used to determine clotting. By recording the changes in light transmission of a sample of clotting blood or plasma he has been able to delimit four phases: (1) the period of dissociation, (2) the period of fibrin formation, (3) the rest period and (4) the period of clot retraction. The first two phases merge and are interdependent, so that disintegration of platelets and thrombin formation are not completed before fibrin is formed and the latter is a slow process if the former is slow. The "fifth variable," which is the decrease in light transmission caused by fibrin formation, can be used as a close approximation of the amount of fibrin formed.

The experimental section and the discussion of hemorrhagic diseases lays a firm foundation for interpretations of changes in blood coagulability in terms of hematologic and extrinsic factors.

RUSSEL O. BOWMAN, PH.D.

TEXTBOOK OF PEDIATRICS. By J. P. Crozer Griffith, M.D., Ph.D., and A. Graeme Mitchell, M.D. Third edition, revised and reset. pp. 991, with 220 illustrations, many in color. Cloth, $10.00, W. B. Saunders Company, West Washington Square, Philadelphia, 1941.

Most physicians interested in pediatrics have some knowledge of the authors' earlier book, *Diseases of Infants and Children*. This later edition has been completely revised and rewritten. The title has been changed, as new material added on growth and development and on the physical and mental care of the child made the old title inappropriate.

In the 1941 edition the advice of sixty-four experts has been used. Each of these experts has edited one or more chapters of the book, and thus we have "a degree of authority which no one or two authors or reviewers could hope to attain".

This textbook is a veritable gold mine of information. The authors have crammed into just under a thousand closely printed pages almost sufficient material for a system of several volumes.

There is one legitimate criticism that can be made. The sulfonamides, although mentioned frequently, are not given a position of sufficient importance, and the method of administration is not as thoroughly described as one would expect in a book published in 1941.

This book is a very fine one, it should be in every pediatric library and is probably at present the best one-volume textbook of pediatrics.

WILLIAM P. BUFFUM, M.D.

THE DOCTOR AND THE DIFFICULT CHILD. By William Moodie, M.D., F.R.C.P., D.P.M. pp. 214, Cloth, $1.50. The Commonwealth Fund, New York, 1940.

Dr. Moodie is the Medical Director of the London Child Guidance Clinic and Training Center. His book is written in simple language with a minimum of technical terms, and probably offers to the general practitioner and pediatrician as clear a picture of the aims and methods of child guidance as can be found in one small volume. Dr. Moodie understands children and his work is essentially practical, although there is obviously a background of fine scholarship.

The parent is considered more sympathetically than is usual. No matter how inept the parent is there is rarely anything to be gained by unkind criticism: the parent needs help and this can be given best by gaining his friendship, respect and trust. All treatment depends on the proper personal relationship between the doctor and the parent as well as the child.

The difficult child is difficult because his needs are not satisfied. The primary needs of a child are work, security and affection. With this as a background Dr. Moodie describes the more common emotional disturbances and cites many cases.

Any reader will get some valuable points and in addition will enjoy a very well written book.

WILLIAM P. BUFFUM, M.D.

THE MARCH OF MEDICINE. New York Academy of Medicine Lectures to the Laity, 1940, pp. XII — 154, Cloth, $2.00. Columbia University Press, Morningside Heights, New York, 1941.

This volume contains interpretive essays that treat of some of the most important trends in medicine: the development of care of the mentally deranged, the use of the bronchoscope, the story of the viruses, our knowledge of the blood — beginning with the seventeenth-century discovery of the microscope and coming down to the present day — and finally, the addition of chemicals to the modern defense against disease.

Despite this apparent disparity, there is a rich and helpful unity to this book. It is to be found in the fact that each author has devoted himself to common tasks — interpreting the progress of medicine, finding the significance and correlations of a great amount of scientific and historical data, and showing how doctors have come to know what they know. Medical men still follow the dictum of Francis Bacon, seeking to wrest the secrets of nature by close study of her ways and means. As Dr. Solley has so aptly said, "It is the deviousness of the pursuit, the ingenuity and indirectness of the search, that render the story of biological research so fascinating." Here is the thrilling promise of a progressive conquest of disease and of the application of scientific knowledge to social usage.

Neoplastic Diseases, A Treatise on Tumors. By James Ewing, A.M., M.D., Sc.D., LL.D. Fourth edition, revised and enlarged. pp. 1160, with 581 illustrations, Cloth, $14.00, W. B. Saunders Company, Philadelphia, 1940.

A new edition of "Ewing" is welcomed by all who are interested in oncology. A critical review and evaluation of the many new findings and approaches to this subject add greatly to the value of the book. The retention of the old format and binding give the new volume a pleasant and friendly familiarity. The first section on General Oncology shows the most revision. The cautious judgment and open mindedness of Dr. Ewing are reflected by a characteristic sentence that is retained from the old edition: "Of the permanent results of this new era of experimental research it is too early to speak with certainty." The author's attitude toward trauma as a cause of neoplasm is considerably modified. The second section on Special Oncology remains the most complete consideration of the clinical, pathologic, and therapeutic aspects of tumor to be found in one volume. A number of new and helpful illustrations are appreciated by the reader.

B. Earl Clarke, M.D.

The 1940 Year Book of General Medicine. Edited by George F. Dick, M.D., J. Burns Amberson, Jr., M.D., George A. Minot, M.D., S.D., F.R.C.P. (Edinburgh and London), William B. Castle, M.D., A.M., M.D. (Hon.) Utrecht, William B. Stroud, M.D. and George B. Eusterman, M.D. pp. 934, with 210 illustrations, some in color, Cloth, $3.00, The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, 1940.

The present volume is the fortieth in the series of the "Practical Medicine Year Books," and as such contains an anniversary preface, and five special articles, one by the editor of each section. Otherwise it is much like its predecessors, with all its 934 pages packed full of short abstracts of the current literature. Almost no medical periodical, no matter how obscure, is not represented by at least one abstract. In this, I think, these Year Books perform a genuine service, for few practitioners have either the time or the inclination to wade thru the Folia Haematologica, or the Chinese Journal of Physiology, or even the Wisconsin Medical Journal for a whole year in order to find one or two articles of genuine interest. As an effective aid in covering more of the present medical literature than would be otherwise possible I believe these volumes have a perennial usefulness.

Morgan Cutts, M.D.

Essentials of the Diagnostic Examination. By John B. Youmans, B.A., M.S., M.D. pp. 417, with 34 illustrations, many in color, and 24 tables. Cloth, $3.00. The Commonwealth Fund, 41 East 57th Street, New York City, 1940.

This handy little book of 417 pages contains all the information the practitioner would be likely to need in carrying out physical and laboratory examinations in almost any condition he would encounter. There are very few superfluous words used and very few important ones omitted. The tests described are mostly the latest approved ones. It is gratifying to note that the phenolsulphonphthalein kidney function test recommended is the 15 and 30 minutes fractionation method rather than the one hour two hour. It is modern enough to carry us through sulfapyridine determinations but not sulfathiazole. Excellent charts are included to depict the normal ranges of variation and the diagnostic significance of deviations from the normal in laboratory findings. Amongst these is that most valuable chart of cerebrospinal fluid findings in health and disease as compiled by Merritt and Fremont Smith. It is a little disappointing that the one hour 2-dose glucose tolerance test is not described, but this is a minor lack when we consider the general perfection of the book as a guide both to physical examinations and to laboratory procedures.

John C. Ham, M.D.

Merchants in Medicine. By Emanuel M. Josephson, M.D. pp. 223. Paper, $1.50, Chedney Press, 108 East 81st Street, New York, 1941.

Dr. Josephson is dissatisfied. He does not approve the conduct of the American Medical Association, the American College of Surgeons, the New York County Medical Society, the New York Academy of Medicine, the Rockefeller Institute, nor of Closed Hospitals, State Medicine, Voluntary or Compulsory Health Insurance, Organized Social Service, nor of Specialty Boards. He holds that "A competent specialist must know all of medicine, he must therefore not be a specialist at all."

In this free country everyman's opinion must be heard; Dr. Josephson's book may be read with interest by those who have the time. His final chapter, with the title "The Solution of the Cost of Medical Care", promises to be constructive. Starting with the premise that "Proper food, clothing and shelter are more fundamental requisites for good health than the best medicine," he concludes that "The only ultimate solution of the cost of medical care is a solution of the problem of the economic organization of society."

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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MEDICAL EDUCATION IN 1819

A letter from a Medical Student to his Preceptor.

To Doctr. Charles Eldredge,
East Greenwich,
Rhode Island
Mail Philadelphia, Jan. 31, 1819

Dear Sir:

I acknowledge with gratitude the recpt of your very interesting letter of the 25th. November. To hear of the convalescence of those of your patients after whom I enquired was extremely gratifying and the triumph you have gained over the Old Vulgar Quack is no less satisfactory. Such a conquest over ignorance and against the tide of prejudice ought to put the man of medicine the shame who will not acknowledge with his poor patient the efficacy of a remedy. I believe it would be easier to teach almost any other class of men a truth in medicine than some of these Old Gentlemen who profess it, espectially Doct. H. He wants something more than the effects of a remedy which is palpable to the sight and senses.

Then Old Daddy Brown has really been down to see you with his daughter. I suppose he refreshed well all the minds of his Botanical Disciples. It was a pity he was in such a hurry and under such pressing engagements. I would like to have known how long he would have staid under more favorable circumstances.

The lectures are now three-fourths gone. They close on the 27th. Feb. I am afraid Doct. Physic will not be able to complete his two branches, but he exerts himself with all his powers and no one is listened to with so much attention. Everything he says is matter of fact. Although it would not be practicable in a letter to go into the details of medicine I will now acquaint you with the discovery Dr. Physic has lately made in the treatment of that distressing affection, Tic Doloreux. In some painful affections of the head which occurred after bruises of the scalp, after nearly everything else had been tried without effect, he resorted to Emetics (supposing that the disease might be kept up by some peculiar impression on the stomach). With these he succeeded completely in removing the pain. Tart. Antimony or Ipecac, given three days in succession and repeated afterwards according to circumstances. The analogy between this disease and Tic Doloreux induced him to try the same practice, which he did and with the most happy effects, having cured in every instance in which he prescribed it. I yesterday had the opportunity of seeing an amputation performed by Doctr. Parish, one of the surgeons of the Almshouse. I have seen also that for cataract, hydrocele, paracentesis abdominis and many other small operations. The fever which prevails most in the Almshouse is Typhus with some cases of intermittent fever. The surgical cases are the most interesting. Doctr. Chapman, the Professor of Theory and Practice, has just published the last volume of his Therpeutics. In this work we have the most important points in his practice besides an excellent account of all those articles which he thinks worth using. It is in two vols. about the size of Dorsey's Surgery, comes at $6. I shall purchase it tomorrow. I have subscribed for the work of Percival Pot. It is a surgical work which has never before been published in this country. Doct. Physic recommends for us by all means to have it. The English copy has always cost $11. Subscribers now have it for $6. I should very much like to get Burk's Sydenham, Pringle, and two or three other old standing works. I did intend to have sent you Chapman's Therapeutics immediately by Aron Putnam but he has now given up coming to R. I. till spring. The books last mentioned here at auction come for about half price which makes me more strongly inclined to get them at this time. I attend the private lectures of Doct. Dewies. He is acknowledged to be the greatest Obstetrical Character in our country. He lectures summer and winter and always has large classes. He is publishing a small book which he says we shall see next week. I shall get it if it is in my power.

If you can with perfect convenience send me about $20. I think I shall be able to get all I wish to and when I get home you can take any you wish or I will keep them and refund you the money. I wish that you would just write me what time in March you meet to examine for License as I should like to remain here a little after the lectures are over if I can get home in time. Mr. Wilkinson, the Agent of Pomfret Factory, is now boarding with us. He brought letters to George. His father objects to his going to India and I believe he has given it up and will set up next spring in Philadelphia. It is expected that Underwood will get into the Almshouse in the spring without fail. He and George send respects to you. There is a gentleman in my dissecting class, a graduate of Yale College, who is not determined where he shall study next

Continued on page XVIII

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1942

The Trustees of the Fiske Fund announced at the annual meeting of the Rhode Island Medical Society, held in June 1941, that they proposed the following subject for the year 1942.

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For the best essay on the subject worthy of a premium they offer the sum of two hundred and fifty dollars ($250.00). Every competitor for the premium is expected to conform with the following regulations, namely:

To forward to the secretary on or before the first day of May 1, 1942, free of all expense, a copy of his dissertation with a motto thereon, and also accompanying it a sealed envelope having the same motto, inscribed on the outside, and his name and address within.

Previously to receiving the premium awarded, the author of the successful dissertation must transfer to the Trustees all his right, title and interest in and to the same, for the use, benefit and behoof of the Fiske Fund.

Letters accompanying the unsuccessful dissertations will be destroyed unopened, by the Trustees, and the dissertations may be procured by their respective authors if application be made therefor within three months.

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Secretary to the Trustees
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Continued from page XVI

summer. I propose Greenage. He is a very amiable man of fine talents but I don't know but you will find me so much trouble as to put you out of conceit of any more students. Please write me soon.

Yours, etc. F. COLWELL

P. S. Please give my love to all your people and to the Greenage folks. Tell the Miss Bs their aunt sends love and tell Lydia not to be discouraged.

PUBLIC HEALTH

Physicians, especially those engaged in public health work, should enlighten the public regarding quarantine regulations; on the location, arrangement and dietaries of hospitals, asylums, schools, prisons, and similar institutions; and concerning measures for the prevention of epidemic and contagious diseases. When an epidemic prevails, a physician must continue his labors for the alleviation of suffering people, without regard to the risk to his own health or life or to financial return. At all times, it is the duty of the physician to notify the properly constituted public health authorities of every case of communicable disease under his care, in accordance with the laws, rules and regulations of the health authorities of the locality in which the patient is.

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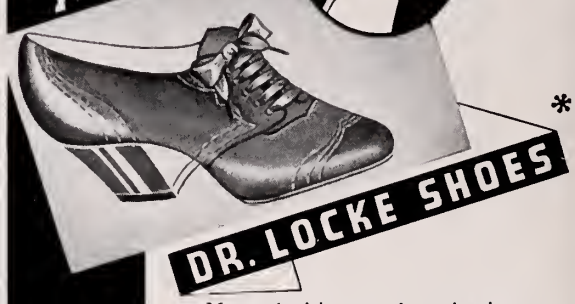

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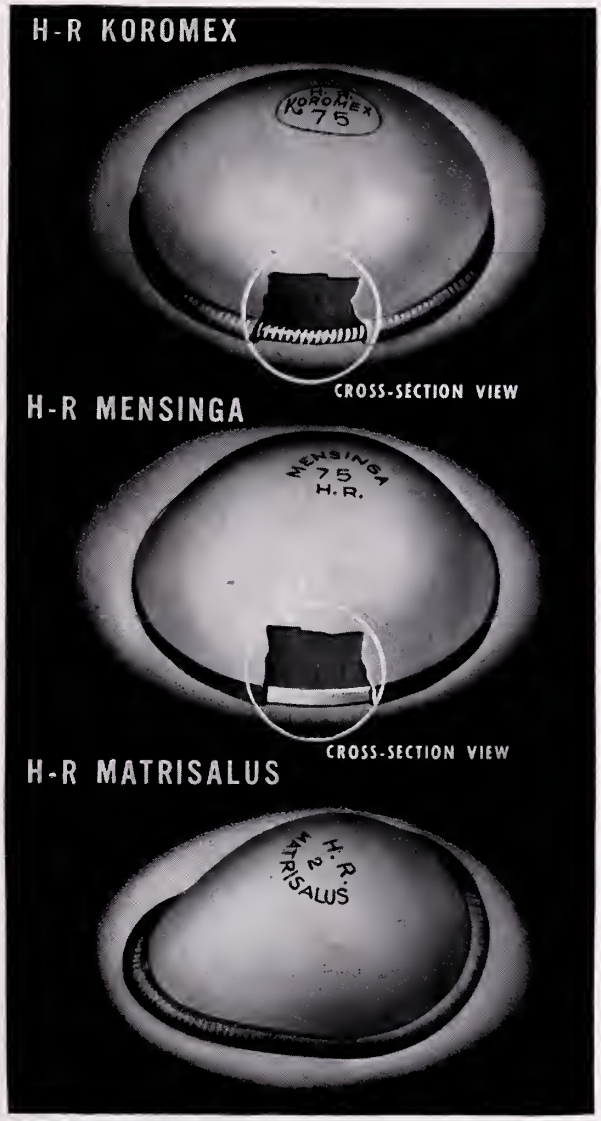

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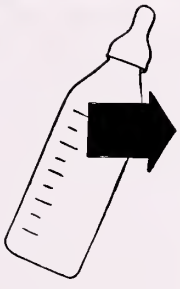

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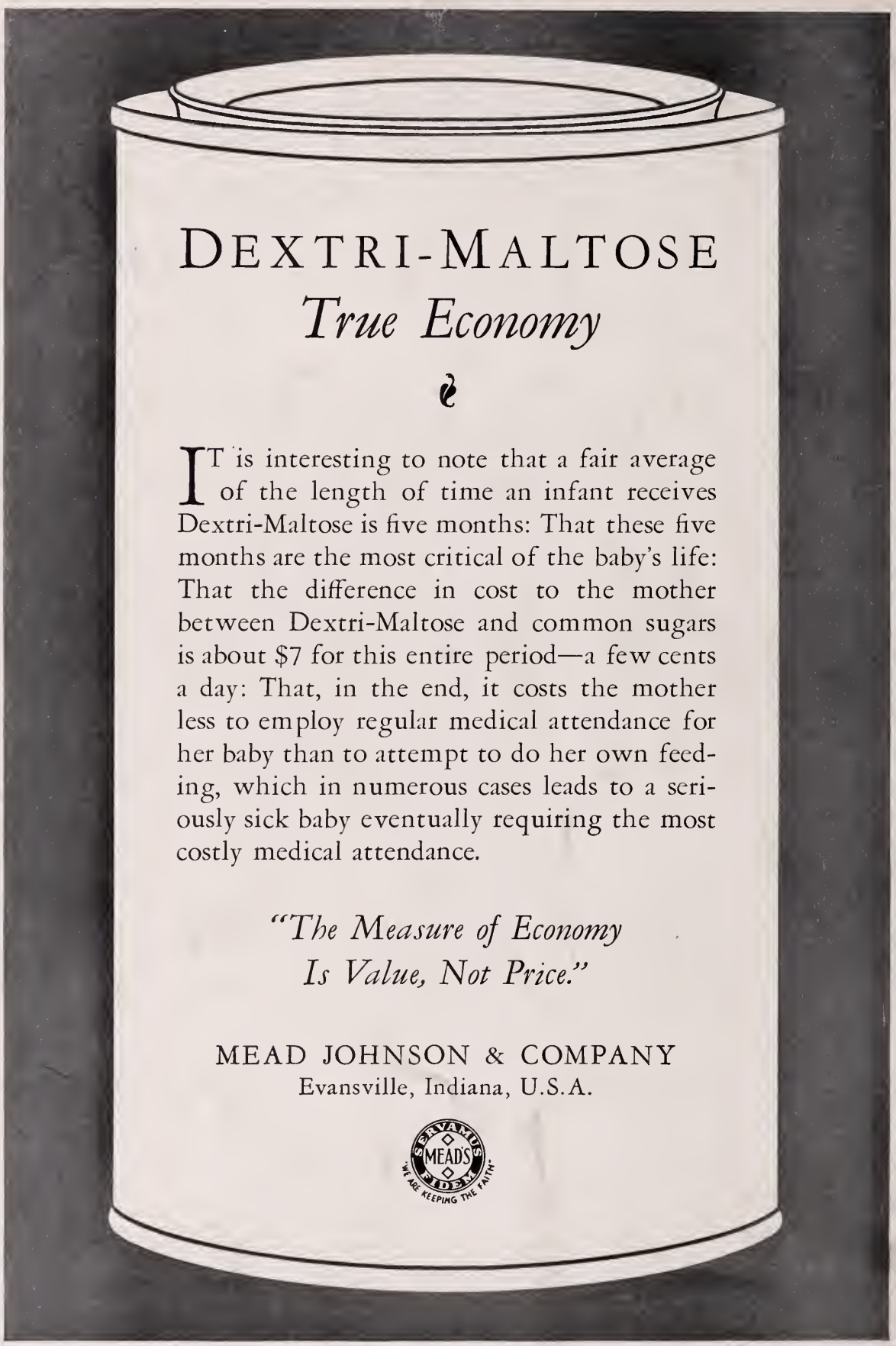

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THE RHODE ISLAND MEDICAL JOURNAL

THE N.Y. ACADEMY OF MEDICINE
AUG 18 1941

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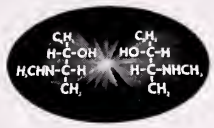

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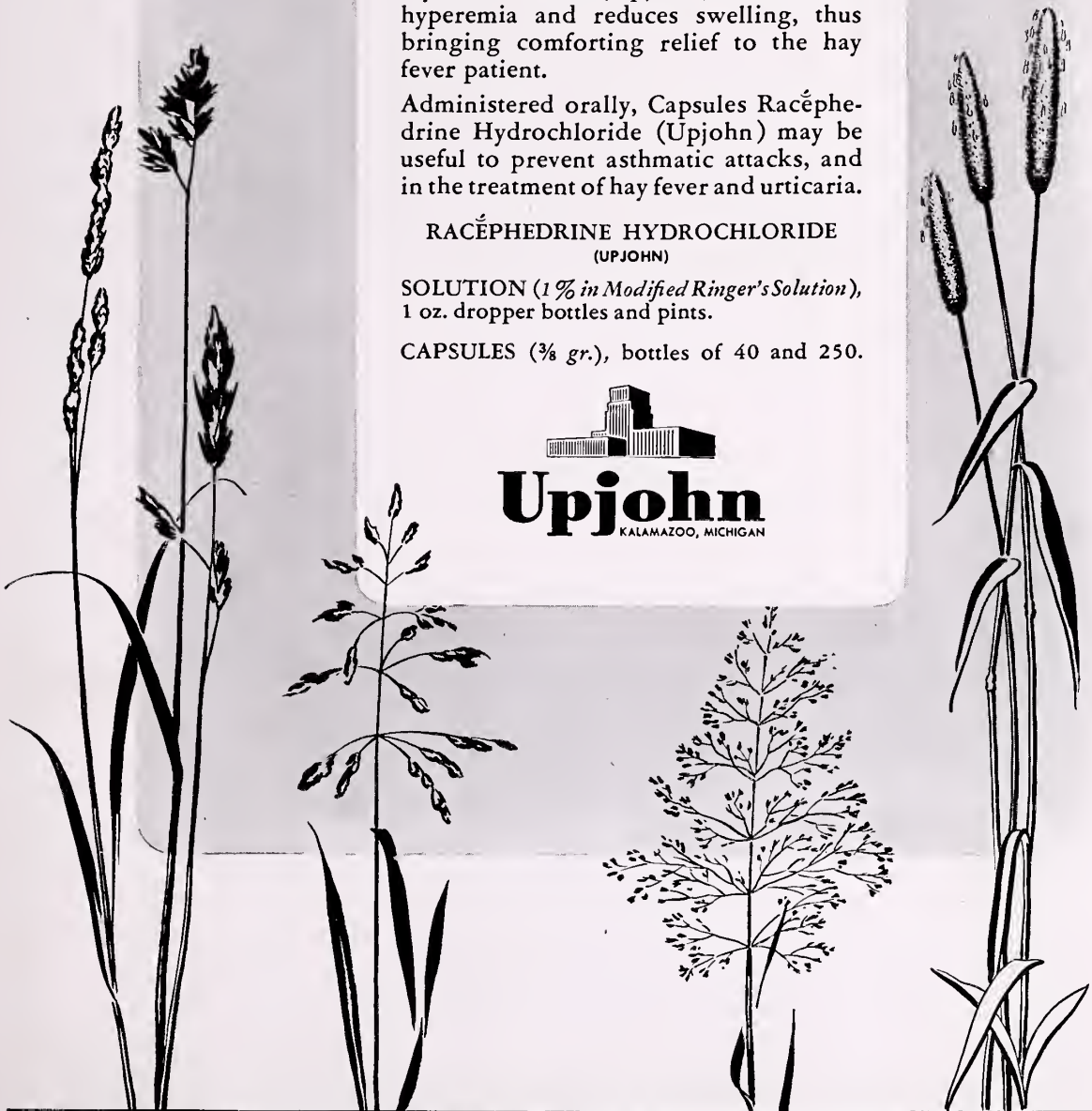

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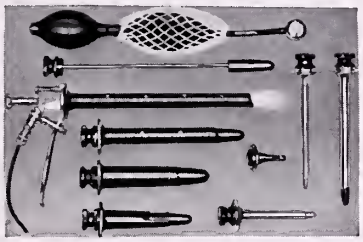

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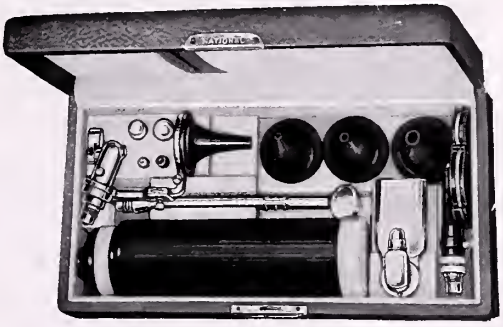

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ELI LILLY AND COMPANY

Principal Offices and Laboratories, Indianapolis, Indiana, U. S. A.

THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV AUGUST, 1941 Number 8

SEX HORMONES
CLINICAL APPLICATION

WILLARD O. THOMPSON, M.D.
AND
NORRIS J. HECKEL, M.D.
CHICAGO, ILLINOIS

Hypogonadism may be of two types, primary and secondary. The primary type is caused by some defect in the gonads themselves while the secondary type is caused by lack of adequate stimulation of the gonads, chiefly by the anterior lobe of the pituitary. In a similar manner, two types of therapy may be employed in hypogonadism depending upon the capacity of the gonads to respond. Stimulation therapy with some suitable gonadotropic material may be used whenever the testes or ovaries are capable of responding to stimulation. Substitution therapy with male or female sex hormone is indicated in all cases of primary hypogonadism. It is also indicated in some cases of secondary hypogonadism because very potent preparations of the male and female sex hormones are available but many gonadotropic preparations are not very effective.

Functions of the Sex Hormones

Normal sex function depends upon a delicate balance between the anterior lobe of the pituitary and the gonads. The anterior lobe has at least two gonadotropic effects which are commonly ascribed to two gonadotropic hormones. One is follicle stimulating and causes the development of graafian follicles in the ovary and influences the function of the seminiferous tubules in the testis. The other is luteinizing and is responsible for the development of the corpus luteum in the ovary and stimulates the interstitial cells of the testis to produce male sex hormone. The production of adequate quantities of sex hormone is thus dependent upon the integrity of the anterior lobe of the pituitary. The sex hormones themselves are responsible for the development of the secondary sex characteristics, which *in the male*, include:

1. Development of the external genitalia.
2. Growth and function of the prostate gland.
3. Masculine distribution of hair.
4. Lowering of the pitch of the voice.
5. Normal configuration of the skeleton, with normal proportions between the trunk and extremities and between the shoulders and hips.
6. Increase in size and firmness of the muscles.
7. Normal emotional reactions.

In the female, these include:

1. Development of the external genitalia.
2. Growth and function of the uterus.
3. Development of the breasts.
4. Female distribution of hair.
5. Normal configuration of the skeleton. When normal function of the gonads is absent during the age of puberty, the trunk becomes short and the extremities long. Other skeletal proportions are affected, such as width of the pelvis and the breadth of the shoulders and chest.
6. Characteristic feminine distribution of fat.
7. Normal emotional reactions.

Any material which produces the effects of the male sex hormone is called an androgen and any material which produces the effects of the female sex hormone is called an estrogen. Various androgenic and estrogenic materials are available, both natural and artificial. The natural androgens and estrogens both appear to be derived from cholesterol. The most potent androgenic material thus far isolated is testosterone, which is used in the form of testosterone propionate: and the most potent natural estrogen is estradiol, which is used in the form of some suitable ester such as the benzoate or the dipropionate. Both estradiol and testosterone, although recoverable from the ovary and testis respectively, are for commercial purposes made synthetically.

From the Departments of Medicine and Surgery, Rush Medical College of the University of Chicago and the Presbyterian Hospital, Chicago.

Read before the one hundred and thirtieth annual meeting of the Rhode Island Medical Society, Newport, R. I., May 29, 1941.

Indications for Male Sex Hormone
(TESTOSTERONE PROPIONATE)

As already pointed out, the administration of male sex hormone represents substitution therapy and is therefore indicated in cases of hypogonadism in which the testes are incapable of responding to stimulation, viz.:

1. Primary hypogonadism, including
   a. All cases of eunuchism
   b. Most cases of eunuchoidism
2. Secondary hypogonadism, when stimulation therapy is ineffective. This applies to some cases of the Fröhlich syndrome, chromophobe adenoma of the pituitary and pituitary dwarfism. However, stimulation therapy is preferable in most of them.
3. Impotence from deficiency of testes.
4. Male climacteric (?).

Treatment of Eunuchism and Eunuchoidism

Three methods may be employed:

1. Parenteral administration of testosterone propionate (25-50 mgm. daily).
2. Oral administration of methyl testosterone (150-200 mgm. daily).
3. Implantation of pellets.

These doses are continued for one year or longer until the maximum growth of the genitalia, skeleton and body hair occurs. Regression is then prevented by the administration of a smaller maintenance dose for the rest of the patient's life. In occasional cases of the Fröhlich syndrome in which substitution therapy is indicated, the doses required are the same.

In eunuchs and in eunuchoid men who are completely undeveloped sexually the administration of adequate doses of male sex hormone will produce the following changes:

"1. The gradual appearance of the secondary sex characteristics of the adult male. The infantile penis may become normal in size, the prostate develops, and hair grows in the pubic and axillary regions, on the face and on other parts of the body. The pitch of the voice rapidly assumes its characteristic masculine quality. Erections and seminal emissions become very frequent. Priapism has been described.

2. A marked increase in appetite and body weight (as much as 40 pounds (18 Kg.) in four months). The patients do not become obese but show an enormous increase in the size, firmness and strength of muscles. The material appears to stimulate development of the muscular characteristics of the normal male, whereas in the eunuchoid state the muscle development resembles that of the female.

3. An increase in basal metabolism of as much as 30 points. In our patients who received large doses, the rate was raised above normal.

4. An increase in vigor and sense of well being. The patients are capable of and have the initiative to do much more work, both mental and physical. They seek and become much more proficient in games involving muscle coordination and physical stamina.

5. Loss of their effeminate characteristics. Whereas before treatment they tend to run away from arguments and physical combat, after treatment they tend to welcome opportunities to demonstrate their physical prowess."[1]

In order to produce normal contour of the skeleton, it is necessary to start treatment just before the age of puberty, namely at the age of 10 to 12 years.

Nothing is more dramatic than the changes which may be produced in such patients with male sex hormone. It represents literally a modern miracle.

Dwarfism

One of the most interesting effects of both chorionic gonadotropin and testosterone propionate in young boys is stimulation of skeletal growth. As long as the epiphyses are open the bones may be made to grow at a very rapid rate. Up to the present time there is no evidence that premature closure of the epiphyses is caused by either material, in spite of reports in the literature to the contrary. We have observed similar changes in female patients with female sex hormone but the data are not yet extensive enough to say whether the female sex hormone is as potent a stimulator of growth as the male. In boys the male sex hormone may be said to be the most effective growth promoting agent which we have at the present time. This has an important clinical application, since there is no potent preparation of growth factor of the pituitary available at present. Thus in some boys with pituitary dwarfism in whom other methods of treatment are ineffective, a considerable amount of skeletal growth may be associated with genital growth following the administration of large doses of either testosterone propionate or chorionic gonadotropin. We have also observed some growth in girls with pituitary dwarfism following the administration of female sex hormone. The increase

in height is, of course, associated with an increase in weight and with the development of the musculature of the body.

In boys with the Fröhlich syndrome the changes which occur as a result of administration of large doses of testosterone propionate cause a complete change in body contour, so that the Fröhlich characteristics disappear.

Impotence

Impotence is a symptom, not a disease. It is usually the result of some neurogenic or psychogenic factor. Glandular therapy is indicated only when the function of the testes is impaired by castration, atrophy, trauma or infection. In such instances, testosterone propionate may be employed in a dose of 25 mgm. per day, administered parenterally, with excellent results.

Contraindications for Male Sex Hormone

Male sex hormone is contraindicated in:

1. Cases of hypogonadism in which the testes are capable of responding adequately to stimulation, viz.:
   a. Most cases of undescended testes, unless associated with eunuchoidism.
   b. Most cases of hypogonadism secondary to hypopituitarism, including the Fröhlich syndrome.
2. Benign prostatic hypertrophy. Since the male sex hormone is responsible for the development of the prostate, it is difficult to see how its administration would be helpful in this condition.
3. Sterility. It causes azoospermia.
4. Old men with arteriosclerotic or hypertensive heart disease.
5. Impotence, unless caused by testicular deficiency.
6. Most cases of menorrhagia, dysmenorrhea and the menopause.

Harmful Effects of Male Sex Hormone

The following harmful effects of the administration of male sex hormone have been noted:

1. Injury to the normal testis with production of azoospermia. Recovery from such injury may follow omission of treatment.
2. Symptoms of heart failure in old men.
3. Pitting edema of the lower legs.
4. Acne vulgaris.
5. Hypermetabolism (as much as 35 per cent above normal).
6. Hypertrichosis in women.

Indications for Female Sex Hormone

The administration of female sex hormone also represents substitution therapy and is used primarily in:

1. Primary hypogonadism, including
   a. The menopause — spontaneous and artificial
   b. Primary amenorrhea.
2. Some cases of secondary hypogonadism (stimulation therapy not as effective as in male).
3. Some cases of dysmenorrhea.
4. Frigidity from ovarian deficiency.
5. Gonorrheal vaginitis (?).
6. Cystic mastitis (?).
7. Benign prostatic hypertrophy (???).

The Treatment of the Menopause

This may be accomplished in several ways:

1. Parenteral administration of a suitable estrogenic material (e.g., from 1 to 5 mgm. of α-estradiol benzoate or dipropionate every 7 to 14 days).
2. Oral administration of stilbestrol (usual dose from 1 to 2 mgm. daily).
3. Oral administration of a suitable form of some other synthetic or natural estrogen.
4. Implantation of pellets of estradiol.

Estrogenic material should not be administered during uterine bleeding.

Treatment of Primary Amenorrhea

The treatment is essentially the same as for the menopause except that larger doses of estrogenic material may be necessary. After maximum development of the secondary sex characteristics has been produced it is necessary to continue treatment for the rest of the patient's life, just as in eunuchoidism. The results are often dramatic and may be produced either with female sex hormone or with stilbestrol.

The changes produced in women with primary hypogonadism with female sex hormone correspond to those observed in eunuchoid men following the administration of male sex hormones. In such women large doses of estrogenic material produce the following effects[2]:

1. Development of the secondary sex characteristics of the female including the growth of the external and internal genitalia, the development of the breasts, the growth of axillary and pubic hair and the onset of intermittent uterine bleeding resembling menstruation.

2. A moderate increase in body weight, most noticeable in the buttocks, thighs and hips, augmenting the feminine appearance.

3. An increase in muscle strength, bodily vigor and mental acumen.

4. An increase in sex consciousness with a corresponding change in emotional status.

Two changes deserve special attention, namely, the growth of the uterus and of the breasts. The infantile uterus becomes normal in size, and the completely undeveloped breasts may assume the proportions of those of the normal adult. Not only do the nipples and areolae develop but the whole breast area grows. This observation is important because in some animals progesterone is necessary for the growth of the alveoli, estradiol being concerned more with the development of the duct system. It is of great interest that similar changes may be produced with the oral administration of a new synthetic estrogen, stilbestrol. The pigmentation of the nipples is greater following the administration of this material than following that of the natural estrogens, but it will produce fully as great development of the breasts and other secondary sex characteristics.

Contraindications for Female Sex Hormone

It is contraindicated under the following circumstances:

1. When the function of the ovaries is normal.

2. When uterine fibroids are present.

3. During bleeding from the uterus.

4. In cases of secondary amenorrhea in which the ovaries can be stimulated.

Harmful Effects of Female Sex Hormone

In the female it may produce:

1. Injury to the normal ovary.

2. Excessive bleeding from the uterus.

3. Pitting edema of the lower extremities.

It has carcinogenic properties in some laboratory animals but there is no good evidence that it produces carcinoma in man.

In the male it may produce:

1. Injury to the normal testis and azoospermia.

2. A great decrease in the amount of seminal fluid.

3. Enlargement of the breasts.

4. Impotence.

General Rule for Treatment of Hypogonadism

In any case of hypogonadism in either sex, try stimulation therapy first and resort to substitution therapy if it fails. As already indicated, treatment with sex hormones* is substitution therapy and treatment with various gonadotropic principles,† stimulation therapy.

References

1. Thompson, W. O. and Heckel, N. J.: Male Sex Hormone: Clinical Application. J. A. M. A. *113*:2124, December 1939.

2. Thompson, W. O., Thompson, P. K. and Taylor, S. G. III: Production of Sexual Maturity in Young Women with Primary Amenorrhea. Transactions Assn. Amer. Phys. 1941. In Press.

*Our observations have been made with Oreton and Methyl Testosterone of the Schering Corporation (male sex hormone); and with Progynon-B of the Schering Corporation, Di-Ovocylin of Ciba Pharmaceutical Products (female sex hormone), and Stilbestrol of E. R. Squibb & Sons and of Frederick Stearns & Company (estrogenic material).

†We have used A. P. L. of Ayerst, McKenna & Harrison, Follutein of E. R. Squibb & Sons, Pranturon of Schering Corporation, and Korotrin of Winthrop Chemical Company (chorionic gonadotropin): Anteron of the Schering Corporation and Gonadogen of the Upjohn Company (gonadotropic principle from the serum of the pregnant mare): and the Chappell and Armour preparations of pituitary gonadotropin.

The physician in attendance is in charge of the case and is responsible for the treatment of the patient. Consequently, he may prescribe for the patient at any time, and is privileged to vary the mode of treatment outlined and agreed on at a consultation whenever, in his opinion, such a change is warranted. However, at the next consultation, he should state his reasons for departing from the course decided on at the previous conference. When an emergency occurs during the absence of the attending physician, a consultant may provide for the emergency and the subsequent care of the patient until the arrival of the physician in charge, but should do no more than this without the consent of the physician in charge.

From the Code of Ethics of the A. M. A.

THE NEWPORT SOJOURN OF BISHOP BERKELEY

JOHN E. DONLEY, M.D.
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On January 23, 1729, Reverend Mr. Honeyman, Rector of Trinity Church in Newport, was conducting divine service. While he was still in the pulpit a note was handed to him which he opened immediately and read to the congregation. The note informed him that Reverend George Berkeley, Dean of Derry, with his family and some friends had arrived, after a voyage of four months, in the west passage of the harbor and would shortly make his way to the town. Upon the reception of this news the whole congregation of men and women repaired to the wharf where they welcomed the Dean upon his landing. Thus began the two and one-half years sojourn of the illustrious George Berkeley in Newport.

The Dean received an enthusiastic reception and made a favorable impression upon the citizens of the town, for shortly after his coming the reporter of the New England Courier described Berkeley as the "great dignitary of the Church of England" and went on to describe him as a gentleman of middle stature, of an agreeable, pleasant and erect aspect who behaved "after a very complaisant manner." Berkeley expressed his intention of remaining about three months in Newport, at that time a town of some six thousand inhabitants. He described Newport as the "most thriving, flourishing place in America"; and although this is, perhaps, an exaggeration, nevertheless, the town presented many signs of growth and of increasing prosperity. It was an important center for the Society for the Propagation of the Gospel in Foreign Parts and was justly proud of Trinity Church reputed, at that time, to be the most beautiful timber structure in America. In Trinity Church Berkeley subsequently preached several times and became one of its benefactors by the presentation of an organ. It is interesting to inquire why Berkeley came to Newport and to indicate the reason which induced him to remain here not three months, but approximately two and one-half years.

Read before the one hundred and thirtieth Annual Meeting of the Rhode Island Medical Society, Newport, May 28-29, 1941.

In 1722, Berkeley wrote to his friend Percival that he had made up his mind to spend the rest of his days in the island of Bermuda. The South Sea Bubble had burst disastrously and Europe, he thought, was doomed. Holding, in the words of his famous stanza that "Westward the course of empire takes its way," he resolved to make a supreme effort to Christianize the West. He would build a St. Paul's College in the romantic, salubrious, unspoiled isles of Bermuda of which the Poet Waller had sung with enthusiasm. The sons of American settlers and of the Indians would be brought there from the mainland, and when imbued with a sound Christian education they would be sent back to America to evangelize their homeland. Among many reasons for selecting Bermuda as the place for his proposed college Berkeley set forth that it would be an excellent situation because in addition to its delightful climate, no one enriching commodity was there produced, such as might tempt parsons to turn traders, and also because of the mild character of the people. Furthermore, he was attracted by the island because whores, vagabonds and transported criminals had never settled in Bermuda. In 1725, he began his propaganda for the college by publishing a tract entitled, Proposal for the Better Supplying of Churches in our Foreign Plantations. The project received the approbation and financial support of Berkeley's friends, and the considerable sum of 3,400 pounds was raised by public subscription. The English Government itself became interested and promised to contribute 20,000 pounds toward the foundation of the college. A few months before his leaving somewhat suddenly for America, Berkeley wrote to his friends that he had married Miss Foster, the daughter of a Chief Justice and former Speaker of the Irish House of Commons. "I chose her," he said, "for her qualities of mind and her unaffected liking for books." She accompanied the Dean to America with great cheerfulness to "live a plain farmer's life and wear stuff of her own spinning-wheel."

In the summer of 1729, after a visit to Dr. MacSparran in the Narragansett country, Berkeley

returned to Newport but did not remain long in the town. He had purchased a farm of something less than one hundred acres at Sachuest Beach and on it he built a wooden house still in existence which he named Whitehall. While awaiting news of the English Parliament's decision with respect of the promised money for his college, Berkeley enjoyed at Whitehall a period of repose, leading a plain farmer's life, interspersed with occasional visits to Newport. Berkeley traveled little and never visited Boston except when he took ship there on his return to Europe. His friends, however, preferred the attractions of Boston to those of Newport so that Berkeley and his wife were generally very much alone after he took up his residence at Whitehall. Writing to his friend Percival in the spring of 1730, he says, "We have passed the winter in profound solitude, all my companions having been allured four or six months ago to Boston, the great place of pleasure and resort in these parts, where they still continue. After my long fatigue of business this retirement is very agreeable to me; my wife loves a country life and books. So well as to pass her time contentedly and cheerfully without any other conversation than her husband and the dead." All of us know the Hanging Rocks and the almost obliterated winding path along the southern face of them leading to the alcove where, according to tradition, Berkeley meditated upon what later became his celebrated book Alciphron or the Minute Philosophers which he published in London shortly after his return from America. Although his plans for a college in Bermuda came ultimately to naught, Berkeley left his impress upon the cultural development of Newport and of the colonies, —an influence it would be worth while to discuss were not time so pressing.

In the philosophical firmament Berkeley is a star of the first magnitude; but to us physicians he is perhaps equally interesting as the great protagonist of tar-water. Returning to his native Ireland as the Bishop of Cloyne, he published in 1744, a unique work entitled, Philosophical reflexions and Inquiries concerning the Virtues of Tar-Water. It met with such immediate success that in a few weeks he was required to print a second edition, now with the famous title: Siris: A Chain of Philosophical Reflexions and Inquiries Concerning the Virtues of Tar-Water, And Divers other Subjects connected together and arising one from another. The second Edition, improv'd and corrected by the Author. The book was published in Dublin and printed by Marg't Rhames for R. Gunne, Bookseller, in Capel Street.

It has long been the custom to smile at Berkeley and his tar-water as being but another shining example of the way in which a brilliant layman's mind can be misled in matters medical. But the affair is not so simple as at first sight it may appear; for when we consider the social, intellectual and especially the medical climate in which Berkeley lived, his praise of tar-water seems to be not less fantastic than was the popular devotion to the remedies for the "uric acid diathesis" of a generation ago or the commercialized vitamin craze of our own day. In Cloyne, the years 1739, 1740 and 1741 were black periods of famine which the Bishop tried to alleviate by founding a work-house and by distributing sums of money, but all to little purpose. In the wake of famine came pestilence which, for the most part, took the form of dysentery which decimated the people especially in the county of Cork. As Berkeley declared, "the distress of the sick and poor is endless. The havoc of mankind in the counties of Cork and adjacent places hath been incredible. The nation probably will not recover the loss in a century. The other day I heard one from the county of Limerick say that whole villages were entirely dispopulated. About two months since I have heard Sir Richard Cox say that five hundred were dead in the parish where he lives, though in a country I believe not very populous." Confronted by these tragic conditions the kindly Bishop naturally sought a remedy and believed that he had found it. "I was not," he says, "so well able to say by what method best to take in this epidemical bloody flux, that distemper not having been very rife in this town till very lately, though it had made a great progress in other parts of this county. But this week I have cured several by the following course; than which nothing is easier or cheaper. I give to grown people a heaped spoonful of rosin powdered fine, in a little broth; this is repeated at the distance of six or eight hours till the blood is staunched. To children I give a bare spoonful not heaped. A farthing's worth of rosin (if I may judge from my own short experience) will never fail to stop the flow of blood. . . ." Again he says, "I believe tar-water might be useful to prevent (or to perfect the cure

of) such an evil; there being, so far as I know or can judge, no more powerful corrector of putrid humors. But I am making a further inquiry, and more experiments concerning the virtues of that medicine. . . ." A week later he declares tar-water a success. He is studying the available books on medicine and in a letter to a friend he remarks, "I write in no small confusion and distress; my family having been ill of an epidemical fever that rages in these parts; and I being the only physician to them and my poor neighbors."

The fury of the epidemic abated, but Berkeley continued his experiments with tar-water. On January 12, 1742, he writes to another friend, "I would say, shun late hours, drink tar-water, and bring back . . . a good stock of health and spirits. . . ." The Bishop, having been convinced by his experience of the extraordinary value of tar-water, began to consider its possible use in many kinds of disease. As his successful experiments multiplied, he read more books on medicine and especially on chemistry to find, if he could, the reasons for the value of his almost miraculous remedy. After two or three years of study and experiments he published his famous work which, as I have said, met with such immediate success that in a few weeks he was required to publish a second edition.

Siris begins with a description of the medicinal virtues and the method of preparation of tar-water. Tar, he tells us, is obtained from all sorts of pines or firs from which it can be drawn off in various ways. The juice of firs and pines consists of aqueous, oily and saline particles. Pines and such-like trees are especially rich in "acid or vegetable soul." The juice, acted on by the sun, is strained into a balsam; the "vegetable soul" or acid is drawn off by water and a "most noble medicine" is the result.

The benevolent Bishop's faith in his remedy is illustrated by the first paragraph of Siris. He writes, "For introduction to the following piece I assure the reader that nothing could, in my present situation, have induced me to be at the pains of writing it, but a firm belief that it would prove a valuable present to the public. What entertainment soever the reasoning or notional part may afford the mind, I will venture to say, the other part seemeth so surely calculated to do good to the body that both must be gainers. For if the lute be not well tuned, the musician fails of his harmony. And in our present state, the operations of the mind so far depend on the right tone or good condition of its instrument, that anything which greatly contributes to preserve or recover the health of the body is well worth the attention of the mind. These considerations have moved me to communicate to the public the salutary virtues of tar-water; to which I thought myself indispensibly obliged by the duty every man owes to mankind. And, as effects are linked with their causes, my thoughts on this low but useful theme lead to farther inquiries and those on to others remote, perhaps, and speculative, but, I hope, not altogether useless or unentertaining." To his friend Prior Berkeley wrote, "I do not say that it is a panacea; I only expect it to be so; time and trial will show." Again he says, "As the old philosopher cried aloud from the housetops to his fellow citizens: Educate your children! —so, I confess, if I had a situation high enough and a voice loud enough I would cry out to all the valetudinarians on earth: Drink Tar-Water." "This safe and cheap medicine," continues the Bishop, "suits all circumstances and all constitutions, operating easily, curing without disturbing, raising the spirits without depressing them, a circumstance that deserves repeated attention, especially in these climates where strong liquors so fatally and so frequently produce those very distresses they are designed to remedy; and, if I am not misinformed, even among the ladies themselves, who are truly much to be pitied. Their condition of life makes them a prey to imaginary woes which never fail to grow up in minds unexercised and unemployed. To get rid of these, it is said, there are who betake themselves to distilled spirits. And it is not improbable they are led gradually, to use of those poisons by a certain complaisant pharmacy, too much used in the modern practice,— palsy drops, poppy cordial, plague-water, and such like, which being in truth nothing but drams disguised, yet coming from apothecaries are considered only as medicines. This same water will also give charitable relief to the ladies who often want it more than the parish poor; being many of them never able to take a good meal, and sitting pale, puny, and forbidden, like ghosts at their own table, victims of vapors and indigestion." "It is a great maxim for health, that the juices of the body be kept fluid in a due proportion. Therefore, the acid volatile spirit in tar water, at once atten-

uating and cooling in a moderate degree, must greatly conduce to health, as a mild salutary deobstruent, quickening the circulation of the fluids without wounding the solids, thereby gently removing or preventing those obstructions, which are the great and general cause of most chronical diseases; in this manner answering to the antihysterics, assa faetida, galbanum, myrrh, amber, and in general, to all the resins and gums of trees or shrubs useful in nervous cases." "Warm water is itself a deobstruent. Therefore the infusion of tar drunk warm, is easier insinuated into all the nice capillary vessels, and acts, not only by virtue of the balsam, but also by that of the vehicle. It's taste, it's diuretic quality, it's being so great a cordial shew the activity of this medicine. And at the same time that it quickens the sluggish blood of the hysterical, its balsamic oily nature abates the too rapid motion of the sharp thin blood in those who are hectic. There is a lentour and smoothness in the blood for healthy strong people, on the contrary, there is often an acrimony and solution in that of weakly morbid persons. The fine particles of tar are not only warm and active, they are also balsamic and emollient, softening and enriching the sharp and vapid blood, and healing the erosions occasioned thereby in the blood vessels and glands." "Tar water layeth under no restraint either as to diet, hours, or employment. A man may study or exercise or repose, keep his own hours, pass his time either within or without, and take wholesome nourishment of any kind." "From my representing tar water as good for so many things, some perhaps may conclude it is good for nothing. But charity obligeth me to say what I know, and what I think, howsoever it may be taken. Men may censure and object as they please, but I appeal to time and experiment. Effects misimputed, cases wrong told, circumstances overlooked, perhaps too, prejudices and partialities against Truth, may for a time prevail and keep her at the bottom of her well, from whence nevertheless she emergeth sooner or later, and strikes the eyes of all who do not keep them shut."

After the publication of Siris, Berkeley found himself famous not in Ireland and England only, but throughout the whole of western Europe, and the medical portions of Siris were translated into several foreign languages. In London and Dublin establishments were opened for the drinking of tar water and young Edmund Burke, a student at Trinity College in Dublin, wrote to Richard Sheridan in 1774, "I am sure tar is the universal medicine here notwithstanding the opposition of its enemies, the physicians." And thus did Bishop Berkeley, one-time gracious master of Whitehall, add his famous panacea to the long list of the cures that failed.

A COMMUNICATION ON SELECTIVE SERVICE

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and
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Representatives of the Army and Navy at the recent meeting of the American Psychiatric Association pointed out that medical men must be more cognizant than they have been thus far of the fact that they are selecting men for a specialized vocation. Soldiering is a vocation requiring good physical stamina, but, perhaps more important, certain personality characteristics. For this job a man should be of reasonably stable temperament; able to profit from experience; capable of tolerating the give and take of a group, living and working intimately together; relatively free from morbid fears and anxieties with respect to himself and in relationship to himself and to others, and of sufficient intelligence to understand and carry out reasonably complex orders.

The experience of the first World War showed that induction of those not vocationally suited produced one of the main and most trying problems both in this country and in the Expeditionary Force in France. These unsuited individuals broke down under stress, developing various types of mental disorders. The efficiency of the armed services was impaired, many hospital beds were needlessly occupied, and many of these misfits are to this day being cared for by the Veterans' Hospital Facility. Thus far, in the present Selective Service System, only about 5% have been rejected as vocationally unfit. The figure should be, in terms of the prevalence of

neurotic disorder, nearer 15%. That means 10% are not being screened out. The armed forces, then, have already been burdened to this degree with unqualified material.

You, the medical members of the Local Draft Boards, have the capacity and the knowledge to ferret out this missing 10%. Of fundamental assistance is your familiarity with the individual families and their problems, gained through living in, and serving the community on whose Draft Board you work.

In this connection, we have heard the thought advanced that "Bill Smith", who has up to this point been failing in his adjustment in the community, should go into the Army "for it will make a man of him." Unfortunately in this emergency the Army has no time for treatment. We know from the experience of 1917 and 1918 that such individuals will break down under stress.

The resources of the community, such as social and educational agencies, institutions and hospitals, should be utilized. To those of you who have been skeptical of the propriety of availing yourself of the accumulated data of community resources, it might be stated that the Selective Service Board has advocated making use of just such material.

Also of help is a simple rule of thumb. One puts the question, "Would I be willing to sleep in a pup tent with the selectee for weeks on end? Would I want him to be the other member of a difficult two-man patrol?" If the answer is definitely, "No," one is probably dealing with an individual belonging to the vocationally unfit.

Finally it is suggested that there be careful perusal of the "Medical Circular, No. 1" of which most of you have probably received copies. This gives in precise detail ways of recognizing those individuals who would be apt to break down in general service. This "Medical Circular, No. 1" was published in the Journal of the American Medical Association of May 3rd, 1941.

The Government is relying heavily on us to send material from which a real Army may be produced; an Army that can go into the field and stand up under the frightful physical and psychological punishment of modern war.

Read at the Annual Meeting of the Rhode Island Medical Society at Newport, May 28-29, 1941.

THE RHODE ISLAND MEDICAL JOURNAL

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JOHN GREENE, PROVIDENCE SURGEON

It has been stated on reputable authority and the statement has been quoted in the Rhode Island Medical Journal, that no physician settled in Providence until the year 1760. The opinion is strange on its face for even the most primitive peoples have occasionally felt the need for medical treatment and have met this want in one way or another. We must believe that the people of Providence were so hardy that they felt no need for medical care in their first hundred and twenty-four years or that they were so dull that they were unable to procure it.

But we need not worry further about any lack of medical care for these early settlers. On April 6, 1635, the ship "James," William Cooper, Master, sailed out of Hampton, England, bound for New England. On June 3, after a voyage of fifty-eight days, the ship arrived at Boston. Her passenger

list shows the name of John Greene, Surgeon, who had embarked with his wife and six children. He purchased or built a house at Salem where he was associated with Roger Williams. After Williams' flight in 1636, he sold the house and joined Williams at Providence. Here he secured for his home, lot No. 15 on the Main Street. He was one of the eleven men baptized by Williams and one of the original twelve members of the First Baptist Church.

In 1637 John Greene returned to Salem to settle some business affairs. Being overheard by John Endicott to make some imprudent remarks about the power of the civil magistrates, he was arrested and in spite of Roger Williams' plea to Governor Winthrop that he was "peaceable, a peace-maker and a lover of all English that visit us," the General Court of Massachusetts fined him twenty pounds, put him in jail until the fine was paid and then banished him.

George Sears Greene in his "The Greenes of Rhode Island" says that "John Greene was the first professional medical man in the Providence Plantations." He is alluded to in Goodwin's "Pilgrim Republic" as "one of the two local surgeons" at Providence in 1638. In 1643 John Greene removed to Warwick where he spent the remainder of his life. We are told, however, that "the people of Providence relied solely upon him for surgical aid" long after his departure from Providence.

John Greene, Surgeon, was prominent in the affairs of the Colony and a close friend of Roger Williams. He died in January 1659 and was buried in Warwick.

The Greene's of Rhode Island. Major General George Sears Greene. Roger Williams. James Ernst.

CHARLES VALUE CHAPIN, 1856-1941

About the end of the last century and the beginning of the current one, public health was quite generally regarded as a just barely respectable "job," routine and somnolent; in process of being nudged into unwilling half-awakeness by the eager, enterprising interloper Bacteriology, itself then only half hatched, its "sea legs" still to be found.

The Superintendent of Health and Registrar of a small city in the smallest state of the Union, on a small salary and with small facilities (except an illimitable courage and an inimitable brain) undertook single handed to introduce thinking into somnolence, clearcut objectives into blindfold routine; the vital use, not the mere piling up of vital statistics; incidentally asking of all practicing public health departments first how they practiced (which many answered) and then why, to which latter question the answers were chiefly (and probably very discreetly) silence; indeed, in public health circles Why was then very generally considered a question almost blasphemous, surely inpertinent, or ignorant, or just silly.

The writer remembers, with deep feeling, private comments by public health men on two of Chapin's earlier findings—that terminal disinfection accomplished nothing except the unwarranted conveyance of a harmful illusion of safety; that typhoid fever did not come from water but always from people, though sometimes through water, and also sometimes through other things.

The commentators disagreed usually on one point only, i.e. as to whether, within the next two years, Chapin would arrive (*a*) in an asylum or (*b*) in jail. One of these very regrettable and long-since very regretful commentators was the present writer himself [Reporter's Note.—Dr. Emerson is not the writer]. In the face then of innumerable critics all keenly watchful and nearly all confidently expectant of "inevitable" disaster, Chapin calmly abolished terminal disinfection in his own bailiwick, Providence, Rhode Island, knowing well (private letter) that if any even fortuitous, perfectly casual epidemic should occur in Providence within a year or two he would be done, professionally and personally. But the Fates were kind to public health, and terminal disinfection, not Chapin, was discarded everywhere finally.

The foremost epidemiologist of a day when epidemiology was lucky to find some person who could spell it, although very few even of these could define it; the leader ever since in teaching the fundamentals of the epidemiologies of today, even before they were generally recognized as epidemiological; most cautious and careful in research, most prompt, bold and incisive in action, Charles Value Chapin was—is—the greatest and most generously helpful of all creditors; to whom public health men have owed for more than a third of a century a growing debt that on Jan. 31, 1941 became forever, alas, quite unpayable. (Anon.)

It was the concensus that the foregoing memorial be spread on the minutes, and, at the suggestion of Dr. Harold B. Wood, Harrisburg, Pa., that a copy of it be sent to Mrs. Chapin and that it be printed in THE JOURNAL.

A Memorial presented by Dr. Haven Emerson at the request of Dr. Chesley and of members of the American Epidemiological Society, in the Section on Preventive and Industrial Medicine and Public Health. From the minutes of the ninety-second annual session of the American Medical Association, held in Cleveland, June 2-6, 1941. The Journal A. M. A., 116:26, 2870, June 28, 1941.

CORRESPONDENCE

July 15, 1941.

TO THE EDITOR,—
Dear Sir:—

As a representative of the Rhode Island Medical Society on the Board of Directors of the Blue Cross I feel compelled to comment on the letter of "Disappointed Surgeon" published in the June number of the RHODE ISLAND MEDICAL JOURNAL in which he complains that the Blue Cross patients by unnecessarily prolonging their hospital stay are occupying beds in our overcrowded hospitals which are urgently needed by other patients. He draws attention to an abuse against which every agency which sells health benefits which have been purchased in advance on a contingency basis has to fight. Commercial health and accident insurance, workmen's compensation systems, lodges, hospitals charging fixed rates for maternity care, panel medicine practice—all these beneficial agencies suffer from the universal and quite natural desire of the beneficiaries to get all they can for the money they have invested. It could hardly be expected that members of the Blue Cross would be the lone exception to this universal rule.

In a non-profit mutual benefit agency such as the Blue Cross it is the beneficiaries who in the end are themselves the sufferers. Three hundred thirty Blue Cross members were admitted to hospitals in June of this year. If each one of these patients stayed in the hospital one day more than was necessary it would cost the Blue Cross $1865.00. June is not one of the months when hospital admissions are at their peak so it is fair to assume that in a year this one unnecessary day would cost the Blue Cross approximately $25,000.00 in a year. If this $25,000.00 could be saved the Blue Cross would use it in one of two ways — to increase once more its benefits or to decrease its charges to its members.

While "Disappointed Surgeon" has drawn attention to an abuse which the Blue Cross is anxious to minimize, he has probably exaggerated its share in the present shortage of hospital beds for treating private patients. In hard times patients are anxious to save money and insist on going home at the earliest possible moment. In more prosperous times they do not have the same economic urge. Two or three extra days do not cut such a figure in their budget. The high cost and scarcity of home nursing care and domestic help and the comparatively low cost of hospital care is no doubt another factor in keeping patients (Blue Cross or otherwise) in the hospital a few days longer than is absolutely necessary.

The figures indicate that, as a matter of fact, the hospital stay of the Blue Cross patient is below the average. The annual reports of three Providence hospitals give their average hospital stay as 15 days, 11.3 days and 10 days respectively. The average hospital stay of the Blue Cross patient for the year 1940 was 8.4 days and for the first five months of 1941, 9.1 days.

The booklet given to every Blue Cross subscriber states: "Hospital care shall end at the time the subscriber is discharged as an 'in' patient by the treating physician." The Blue Cross cannot discharge private patients. The hospitals cannot discharge private patients. Only the patient's private physician can send the patient home.

The Blue Cross begs the co-operation of the doctors in reducing to a minimum the unnecessary hospitals days demanded by Blue Cross patients.

EDWARD S. BRACKETT, M.D.

SOCIAL CALLS ON PATIENT OF ANOTHER PHYSICIAN

A physician should avoid making social calls on those who are under the professional care of other physicians without the knowledge and consent of the attendant. Should such a friendly visit be made, there should be no inquiry relative to the nature of the disease or comment upon the treatment of the case, but the conversation should be on subjects other than the physical condition of the patient.

From the Code of Ethics of the A. M. A.

RHODE ISLAND MEDICAL SOCIETY

Minutes of the One Hundred and Thirtieth Annual Sessions

Continued from page 141

Committee on the Library

The Report of the Committee on the Library, in order to demonstrate the activities of the past year, must be of necessity largely statistical.

The total number of visitors to the Library was 1953, and a considerable part of these were engaged in research. From year to year, it is evident that the use of the Library for serious study is increasing, and that a larger number of individuals are making use of the facilities offered. It should be remembered in this connection that the Library is accessible to the public for consultation, and that it is frequently resorted to by the students of the various educational institutions of the State. In addition, the Staff of the Library is frequently consulted by telephone for information which can be furnished best by our Library.

It will be seen, therefore, that, while this is the Library of the Rhode Island Medical Society, its influence is felt far beyond the confines of the Society.

During the year we have received the following special gifts; From the Estate of Dr. Charles V. Chapin, books, manuscripts of most of Dr. Chapin's writings, and a series of Scrap Books, covering his entire active life — the whole being a veritable mine of information relating to Public Health matters, in Providence, the State of Rhode Island, and the civilized world. This collection is a most valuable memorial to our most distinguished Fellow.

From the Estate of George F. Allison, M.D.—
130 volumes

From Roland Hammond, M.D.—
Journals

From Harlan P. Abbott, M.D.—
2 volumes

From Peter P. Chase, M.D. —
1 volume, Davenport, Coll.

From William T. Corlett, M.D.—
1 volume, Davenport, Coll.

From William T. Corlett, M.D.—
2 volumes, 1 Music Mss., Davenport, Coll.

The cataloguing has been continued, and there are now 19,838 volumes listed.

The total number of volumes in the Library, not including reprints and pamphlets, is 32,746.

135 Journals have been received through subscription and exchange.

The following Journals have been added to the list of those regularly received:

American Journal of Digestive Diseases
Anesthesiology
Journal American Dental Association
Medical Care
Southern Medical Journal
War Medicine

159 Journals (volumes) have been added by binding.

Books added:

By Purchase — 25 volumes.

By Gifts, and from the Rhode Island Medical Journal books sent for review 221,

making a total of 246 additions. This number, however, does not include many reprints and pamphlets.

To the Davenport Collection, consisting of non-medical books, written by authors who were characterized by Dr. Davenport as "literary Doctors of Medicine," there were added 8 volumes.

Respectfully submitted,

HERBERT G. PARTRIDGE, M.D.,
Chairman

Sub-Committee on Cancer

The Cancer Committee of the Rhode Island Medical Society has held three regular meetings during the year.

The chief discussion at all of these meetings centered around the compulsory reporting of cancer cases.

At a meeting held January 4, 1941, a proposed amendment to the State law embodying this proposal was read and approved. It was voted to have this amendment presented to the State Legislature through proper channels. Thanks to the very efficient efforts of Mr. John Farrell, the amendment was presented to the Legislature, was passed unanimously and became a law when signed by Governor McGrath April 10, 1941.

The last meeting of the Committee on April 25, 1941 was devoted to the wording of the card to be used by the doctors of the State in reporting cancer cases. This was undertaken at the request of Dr.

McLaughlin, Superintendent of Health. It is very much hoped that the cards will be printed and distributed, and the law be in full operation by June 1, 1941.

Respectfully submitted,
HERMAN C. PITTS, M.D.,
Chairman

Sub-Committee on Maternal Mortality

The physicians of this state have reason to be proud of the fine record they have made in 1940. Maternal Mortality in Rhode Island during the past year reached the all time low of 2.4 per 1000 live births. Such a percentage places us very near the leading state if it does not give us actual supremacy.

The Committee for the study of Maternal Mortality of the Rhode Island Medical Society has met and reviewed the work of the state investigator, Dr. Thomas A. Martin. 25 of the deaths were classified as Obstetrical and 6 cases as Non-obstetrical deaths.

The work of the Committee is continuing and it is planned to hold quarterly meetings during the coming year.

In spite of the steady reduction in Maternal Mortality that has taken place in this state in the past 8 years, further improvement is believed possible. It is the opinion of the Committee that, in 15 of the Obstetrical deaths investigated, errors of judgment on the part of the attending physician or lack of cooperation on the part of the patient were in some degree responsible for the fatal outcome.

Respectfully submitted,
JOHN G. WALSH, M.D.
Chairman

(A detailed report of the work of this committee was printed in the RHODE ISLAND MEDICAL JOURNAL for July, 1941, page 130.)

PROVIDENCE MEDICAL ASSOCIATION

May Meeting

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, May 5, 1941. The meeting was called to order by President Murray S. Danforth at 8:30 P. M.

The Secretary read the records of the previous meeting which were accepted.

The President reported that the committee consisting of Dr. Charles E. V. Kennon and John B. Ferguson had prepared the obituary tribute of the late Dr. Harry S. Flynn, and that this tribute had been placed on permanent file.

The President invited Dr. Lucius Kingman, President of the Rhode Island Medical Society, to speak relative to the annual meeting. Dr. Kingman briefly outlined the program for the 130th annual meeting of the State Medical Society to be held at Newport on May 28 and 29 and urged the attendance of all members at this important session.

The President announced the appointment of Dr. John I. Pinckney as chairman of the Committee on Tuberculosis of the Association to replace Dr. William P. Buffum, who has resigned the position. The appointment of Dr. J. Murray Beardsley as a member of the Committee on Tuberculosis was also announced.

There being no reports of cases nor presentation of specimens, the President proceeded to the reading and discussion of the papers and first introduced Dr. Frank B. Cutts, who presented the subject "Some Factors in the Diagnosis of Cardiac Infarction with Particular Reference to the Precordial Electrocardiogram."

The speaker summarized the clinical factors of importance in diagnosing this condition. A study of 69 selected autopsied patients was reported in an attempt to evaluate the information provided by the chest lead. It was concluded that the chest lead, if properly interpreted in the light of the clinical findings, often provided valuable information in making or excluding the diagnosis of infarction. The paper was discussed by Dr. Clifton B. Leech and Dr. Henry Weyler.

The second speaker of the evening was Dr. Donald B. Lindsley, Director, Psychological Laboratory, Bradley Home, and Assistant Professor of Psychology, Brown University, who spoke on "The Electroencephalogram and Its Clinical Application." Dr. Lindsley illustrated his topic with a motion picture and lantern slide demonstration.

Dr. Lindsley pointed out that the electroencephalogram registered chiefly electrical changes occurring in the cortex or outer layer of the brain. Sleep was reported to alter the character of the record. The development of the record of the normal adult was traced from early infancy. One of the chief clinical uses thus far discovered has been the recording of abnormalities in convulsive states

and certain types of behavior problems. The paper was discussed by Dr. Milton Korb.

The meeting adjourned at 10:20 P. M.

Collation was served. Attendance: 106.

Respectfully submitted,

FRANK B. CUTTS, M.D.
Secretary

AMERICAN MEDICAL ASSOCIATION NATIONAL EDUCATION ASSOCIATION

JOINT COMMITTEES ON HEALTH PROBLEMS IN EDUCATION

CHARLES C. WILSON, M.D., *Chairman*
TEACHERS COLLEGE, COLUMBIA UNIVERSITY,
NEW YORK CITY
W. W. BAUER, M.D., *Secretary*

The importance of nutrition to the health of children is recognized at all times. At a time when all factors in health and physical fitness of the American people are receiving special emphasis as a result of interest in the national defense program, special attention is being focused upon the health and especially upon the nutrition of school children.

It is known and acknowledged that many children attending school are in an unsatisfactory nutritional condition due to many causes, among which are economic inability of parents to provide proper food; faulty family and individual eating habits; racial family and individual food preferences; traditions; and parental ignorance of the principles underlying good nutrition. It is also known and acknowledged that an undernourished child is not in the best condition for either learning or living.

In many instances the most important factor in poor nutrition is sheer inability to provide proper and sufficient food. As a means of combating this condition it has been deemed advisable in many situations to provide lunches for children at school. In some localities surplus food commodities have been made available for use in the preparation of school lunches.

For these reasons, the school lunch has come to occupy an important place as an aid to nutrition and health and, therefore, to the education of children.

The school lunch should be recognized as serving three principal functions, namely:

(a) supplementary feeding for children not properly fed at home;

(b) feeding, or supplementary feeding, for children unable to return to their homes for luncheon and unable to bring adequate lunches to school;

(c) an important aid in the teaching of nutrition.

The school lunch, therefore, should be nutritionally well conceived and as closely as possible adapted to the needs of the child.

The principal nutritional deficiencies most commonly found in American diets are calcium, vitamin B_1 (thiamine) and, in certain geographical areas, iron, iodine and the pellagra-preventive factors (nicotinic acid, riboflavin). Among underprivileged groups where money is not available for the purchase of adequate food, there may be a deficiency of all dietary essentials, including protein and even total calories.

The most practical source of calcium in the American diet is milk. This food also supplies important amounts of protein, riboflavin, nicotinic acid and other vitamins and minerals. Other foods which are important sources of minerals are eggs (phosphorus and iron), cheese (calcium and phosphorus), vegetables and fruits (many minerals including calcium and iron), and meat (iron).

The foods which supply vitamin B_1 (thiamine) are whole grain cereals or "enriched" flour products. Nuts (especially peanuts and walnuts) and legumes (dried peas and beans) also are rich sources. Milk and eggs furnish appreciable amounts if consumed in the quantities usually recommended for children's diets. Foods which are important sources of other vitamins are green leafy vegetables and butter (vitamin A), citrus and other raw fruits and vegetables, especially tomatoes (vitamin C) and meats (riboflavin and nicotinic acid; some meats such as pork are rich sources of thiamine, and glandular organs are rich sources of vitamin A).

The foods which best supply proteins include meat, milk, eggs, fish, cheese, beans, peas and soy beans. These foods are all important for their content of other dietary essentials, as well as for the protein which they supply.

School lunches should emphasize foods mentioned in the foregoing paragraphs, in attractive, palatable dishes temptingly served. For the sake of variety and attractiveness, as well as for educational purposes, school lunches should be varied

according to a sufficiently irregular schedule so that Monday will not be synonymous with carrots, Wednesday with spinach, etc. Emphasis should be placed on classes of foodstuffs rather than on specific foods, except in the case of milk. Experience should teach children how to substitute one valuable food for another, according to season, availability, price and similar factors. For example, when oranges and other citrus fruits are not available, vitamin C can be supplied by including in the diet tomatoes or tomato juice, raw cabbage and an increased proportion of other raw fruits and vegetables, and potatoes.

Food products available locally and in common use should be utilized whenever possible and their value thus demonstrated. Food preferences within food classes should be respected when possible, but encouragement should be given to the development of new food likings. An open mind toward unfamiliar foods should be cultivated.

Sufficient time should be allowed for leisurely eating; dawdling should not be encouraged.

Food should be prepared with a due regard for the preservation of its original food values. It is especially important that over-cooking and repeated warming-over should be avoided. Vegetables and fruits when cooked should be served promptly with their original juices, or the latter should be used in other parts of the menu.

One hot dish is generally considered desirable in the school lunch, at least in cool or cold weather, but what this dish contains is more important than the mere fact that it is hot.

Careful cleanliness of utensils and sanitary handling of food are essential. Seek cooperation with health departments, whose responsibility lies here as well as in public eating places. All persons handling food should have clean hands, washed immediately before coming to the preparation of food. All persons should wash their hands before eating.

In order to realize the educational possibilities of the school lunch most fully, participation by children is important. This can begin with menu planning and can include participation in marketing and preparation. Discussion of the reasons for serving certain kinds of food and for choosing certain methods of preparation is useful. Teaching units can and should be correlated with the school lunch.

The example of the teacher also is a potent factor in realizing the educational possibilities of the school lunch.

UNITED CHINA RELIEF

American financial help has assisted in the creation in China of one of the most remarkable medical relief corps existing in any warring country, according to Dr. Donald D. Van Slyke, president of the American Bureau for Medical Aid to China, in a report issued by United China Relief in connection with the fifth anniversary of the start of the Sino-Japanese war.

Scores of mobile medical units that are situated close to the Chinese fighting lines, and that can be dismantled and moved within an hour's notice, form the heart of the Chinese Red Cross Relief Corps, said Dr. Van Slyke. The total medical staff attached to these medical units totals 2,800, and of this number about 1200 men and women serve as stretcher bearers, transporting the wounded from the fighting front.

"Organization of this medical relief corps was made necessary by the Chinese army tactics of 'defense depth' which were adopted after the fall of Hankow," said Dr. Van Slyke. "Chinese troops at the front were scattered over a broad belt that was, in some cases, 100 miles deep. All roads and means of communication that could be used by the enemy's mechanized forces in these areas were destroyed, and ambulances were useless in these roadless areas. The army of stretcher bearers, many of them university students, has solved this problem."

Each of the mobile units has a staff consisting of a doctor, a nurse, four nurses' helpers, a cook, an orderly and seven orderlies. Each medical unit can accommodate 50 wounded soldiers.

The Chinese Red Cross Medical Relief Corps was organized by Scottish-trained, Dr. Robert K. S. Lim, who served for three years with the Indian Medical Unit in France during the first world war. On his return to China, he organized medical corps for training medical students and young doctors for Red Cross work and was serving as professor of physiology at Peiping Union Medical College when war broke out.

The American Bureau for Medical Aid to China has sent 159 ambulances and has provided gasoline and spare parts to keep them running. It has made regular shipments of drugs and vaccines to check the spread of bubonic plague, malaria and cholera. It has provided a complete vaccine-producing plant, now functioning in Kweiyang, and has supplied training schools with X-ray equipment, microscopes, a chemical laboratory, books, and surgical instruments; and has financed construction of five health centers.

Today, Dr. Lim's medical relief corps consists of 360 medical technicians including pharmacists, 181 doctors, 176 nurses, 15 sanitary engineers, 95 sanitary technicians, 19 X-ray technicians, 7 laboratory technicians, 23 dispensers, 15 mechanical engineers, 296 truck and ambulance drivers, and 401 office workers.

One of the Medical Corps most interesting activities has been encouragement given to farmers to remain on their farms growing crops even though these farms lie close behind the fighting zone. In many sectors, half the food for the Chinese soldiers is being produced in the war area itself.

"The Chinese death rate has been whittled down by other American aid in the form of ambulances, vitamins, and trucks for evacuation work. In speeding such help, the United China Relief has done much to sustain Old China long enough for Dr. Lim and others like him to create the new Free China."

Beginning July 1, The American Bureau for Medical Aid to China, through United China Relief, will send $5,000 a month to China, to support Dr. Lim's training schools and orthopedic centers, and to supplement the contributions of the American Red Cross.

RANTEX FACE MASKS

The Holland-Rantos Company have been appointed exclusive distributors for Rantex, the newest development for surgical masks and caps—a patented fibre product which is insoluble in live steam, boiling water or common solvents. A magnification of Rantex shows that it is 176 times more protective than a single layer of gauze. As a result, it provides masks and caps which are exceptionally cool, comfortable, light and free from irritating lint or yarn. They are inexpensive enough to be discarded after a single use; yet they can be autoclaved or sterilized.

The masks are shaped to fit the face; the caps are well tailored. The masks and caps are already being used in many hospitals—including Doctors Hospital in New York, University of Pennsylvania Graduate Hospital in Philadelphia, United States Marine Hospital in Boston, Wisconsin General Hospital, University of Wisconsin in Madison, Wis., and the East Oakland Hospital in Oakland, Calif.

BOOK REVIEW

Science and Seizures. By William G. Lennox, M.D., pp. 258, New York, Harper & Bros., 1941.

Dr. Lennox knows as much and probably more about epilepsy and migrane than any other physician in the country. In this short book he has written for the general practitioner and intelligent layman an informative and entertaining treatise on the subject of these two disorders. In an introductory note Dr. Lennox states that the royalties from the sale of the book will be devoted to some aspect of educational or research in relation to seizures.

The author points out that the average doctor has under his care perhaps five patients with convulsive disorders and fifty sufferers from sick headaches, but that it is often difficult for him to have available in concise form the new facts which will aid him in the treatment of these individuals.

Although convulsive disorders in particular, because of their dramatic nature, have attracted medical attention for centuries, the general public deals with them in an attitude of fear. Educating the public to look upon convulsive disorders as they do upon other medical illness should give the estimated half million sufferers from these disorders in the United States new opportunities for a satisfactory existence. Dr. Lennox describes the various types of seizures, including petit mal, grand mal, Jacksonian attacks, and psychic seizures; includes a readable discussion of the various statistics on the incidence of the disorders and then goes on to discuss diagnosis and treatment. He stresses particularly the value of the electroencephalogram in establishing an accurate diagnosis. In treatment he emphasizes the psychological and social assistance which most epileptic patients require, and in regard to medical treatment stresses the use of phenobarbital, bromides and Dilantin. Institutional care is critically evaluated.

The latter third of the book concerned with migrane is discussed much along the same lines as were the convulsive disorders. A brief bibliography of books and periodical literature dealing with both subjects is appended.

This book is concise, practical, and authoritative, and its easily readable style will make it entertaining reading to every medical man and it should be instructive to all those who have occasion to treat children or adults with convulsive disorders or migrainous headaches.

Charles Bradley, M.D.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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CONNECTICUT STATE MEDICAL SOCIETY TO HOLD SEVENTEENTH CLINICAL CONGRESS

The Connecticut State Medical Society will hold its seventeenth annual Clinical Congress in the Sterling Law Buildings of Yale University at New Haven, on Tuesday, Wednesday and Thursday, September 16, 17, and 18.

Among the guest speakers from outside of Connecticut will be Drs. Sara Jordan, Paul A. Younge, Oscar F. Cox, James L. Poppen, Gilbert E. Haggert, Samuel A. Levine, Frank D. Lathrop, Grantley W. Taylor and Frank H. Lahey of Boston; Emil Novak of Baltimore; Robert H. Kennedy, Ernst P. Boas, David C. Bull, Burrill B. Crohn, Thomas Francis, Jr., and Jerome T. Webster of New York City; E. Jefferson Browder and Matthew Walzer of Brooklyn; Y. D. Koskoff of Pittsburgh; George St. J. Perrott of Bethesda, Maryland; and Irvine H. Page of Indianapolis. In addition to these speakers many Connecticut physicians will present papers.

Tuesday morning's session will be devoted in the main to gynecological subjects, Tuesday afternoon's to the effects of trauma and Wednesday morning's to cardio-vascular disease. The remaining sessions will present a varied and well rounded program of interest to all physicians.

Members of the Congress may enroll in a special course in Traumatic Surgery to be given under the direction of Dr. Samuel C. Harvey of the Yale School of Medicine. This course will begin at the time of the Congress and continue at weekly intervals until completed.

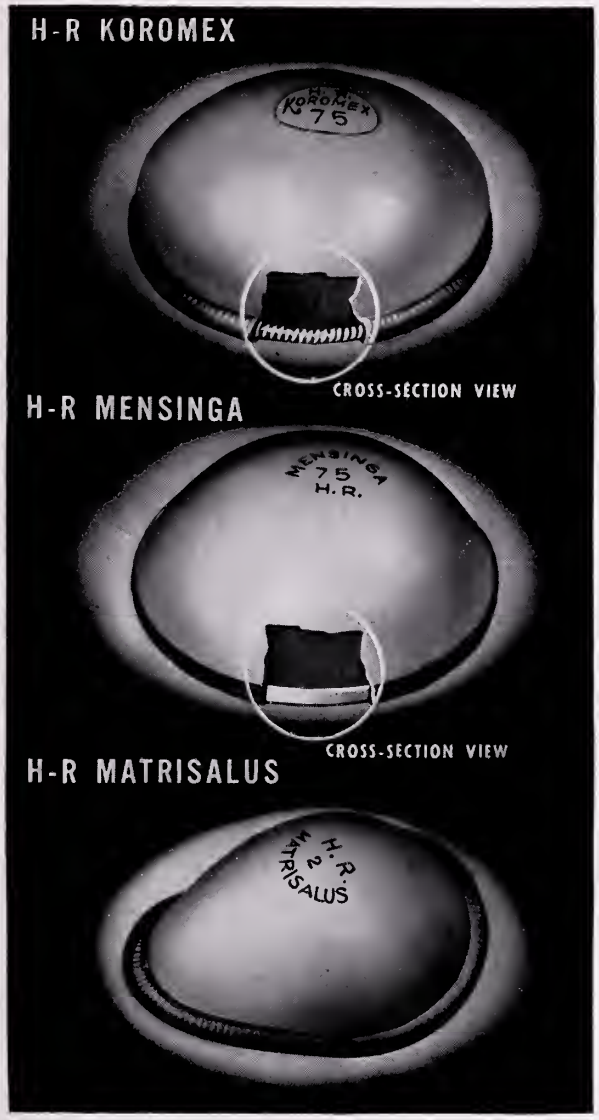
Any physician may register for the Congress. The registration fee for the Congress is $2.00 and for the special course in Traumatic Surgery is $1.00 additional. Detailed information and registration cards may be obtained by writing to The Connecticut Clinical Congress, 258 Church Street, New Haven, Connecticut.

TRY PABLUM ON YOUR VACATION

Vacations are too often a vacation from protective foods. For optimum benefits a vacation should furnish optimum nutrition as well as relaxation, yet actually this is the time when many persons go on a spree of refined carbohydrates. Pablum is a food that "goes good" on camping trips and at the same time supplies an abundance of calcium, phosphorus, iron and vitamins B_1 (thiamine) and G (riboflavin). It can be prepared in a minute, without

Continued on page XVII

Diaphragms for EVERY Condition



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Continued from page XIV

cooking, as a breakfast dish or used as a flour to increase the mineral and vitamin values of staple recipes. Packed dry, Pablum is light to carry, requires no refrigeration. Here are some delicious, easy-to-fix Pablum dishes for vacation meals:

PABLUM BREAKFAST CROQUETTES

Beat three eggs, season with salt, and add all the Pablum the eggs will hold (about 2 cupfuls). Form into flat cakes and fry in bacon fat or other fat until brown. Serve with syrup, honey or jelly.

PABLUM SALMON CROQUETTES

Mix 1 cup salmon with 1 cup Pablum and combine with 3 beaten eggs. Season, shape into cakes, and fry until brown. Serve with ketchup.

PABLUM MEAT PATTIES

Mix 1 cup Pablum and 1½ cups meat (diced or ground ham, cooked beef or chicken), add 1 cup milk or water and a beaten egg. Season, form into patties, and fry in fat.

PABLUM MARMALADE WHIP

Mix ⅔ cup Pablum, ¼ cup marmalade, and ¼ cup water. Fold in 4 egg whites beaten until stiff and add 3 tablespoons chopped nuts.

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1942

The Trustees of the Fiske Fund announced at the annual meeting of the Rhode Island Medical Society, held in June 1941, that they proposed the following subject for the year 1942.

"Chemotherapy—Its Clinical Application"

For the best essay on the subject worthy of a premium they offer the sum of two hundred and fifty dollars ($250.00). Every competitor for the premium is expected to conform with the following regulations, namely:

To forward to the secretary on or before the first day of May 1, 1942, free of all expense, a copy of his dissertation with a motto thereon, and also accompanying it a sealed envelope having the same motto, inscribed on the outside, and his name and address within.

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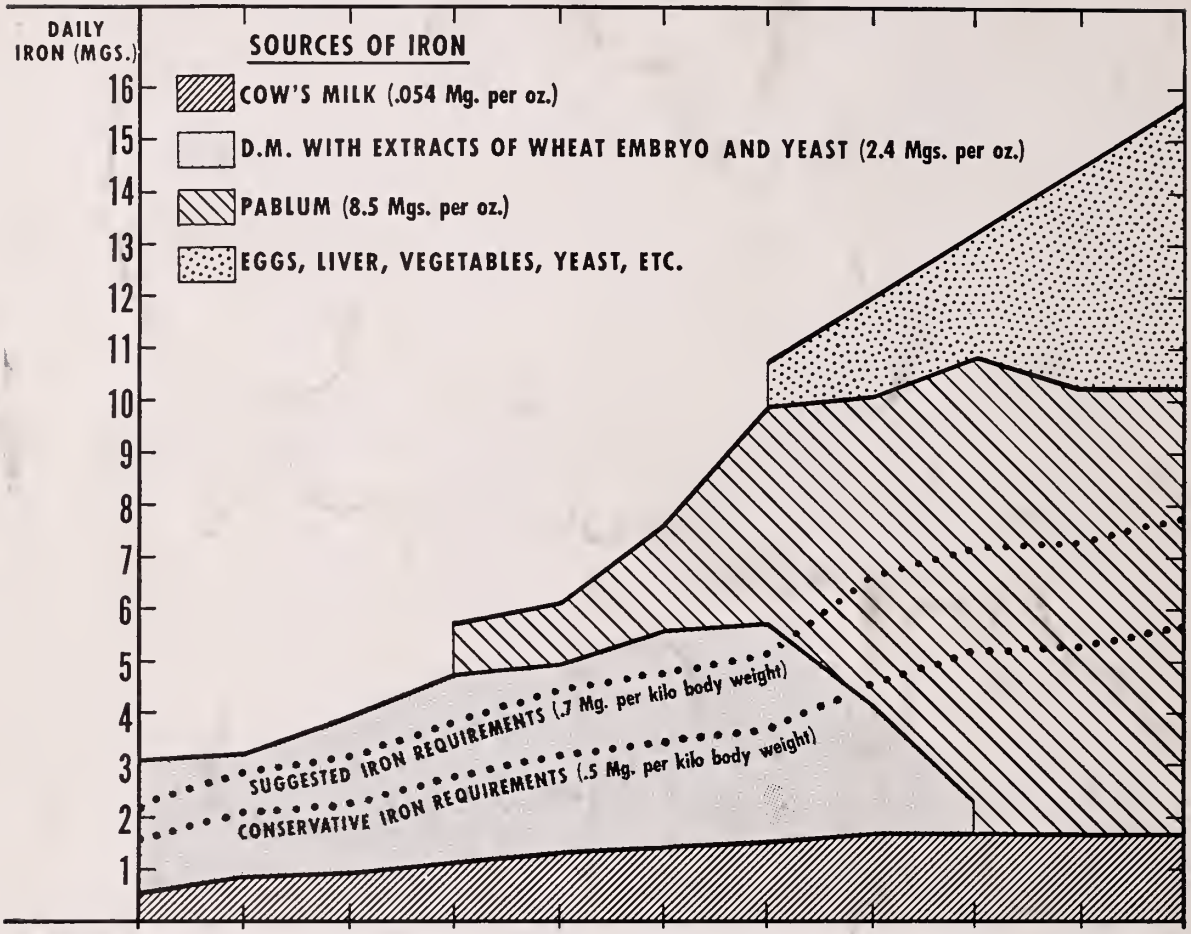

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THE N.Y. ACADEMY OF MEDICINE
SEP 16 1941

Volume XXIV
Number 9

SEPTEMBER
1941

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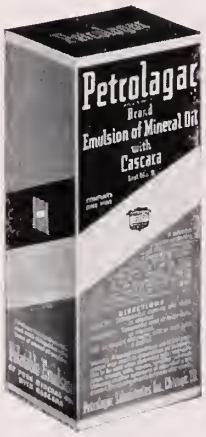

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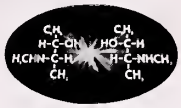

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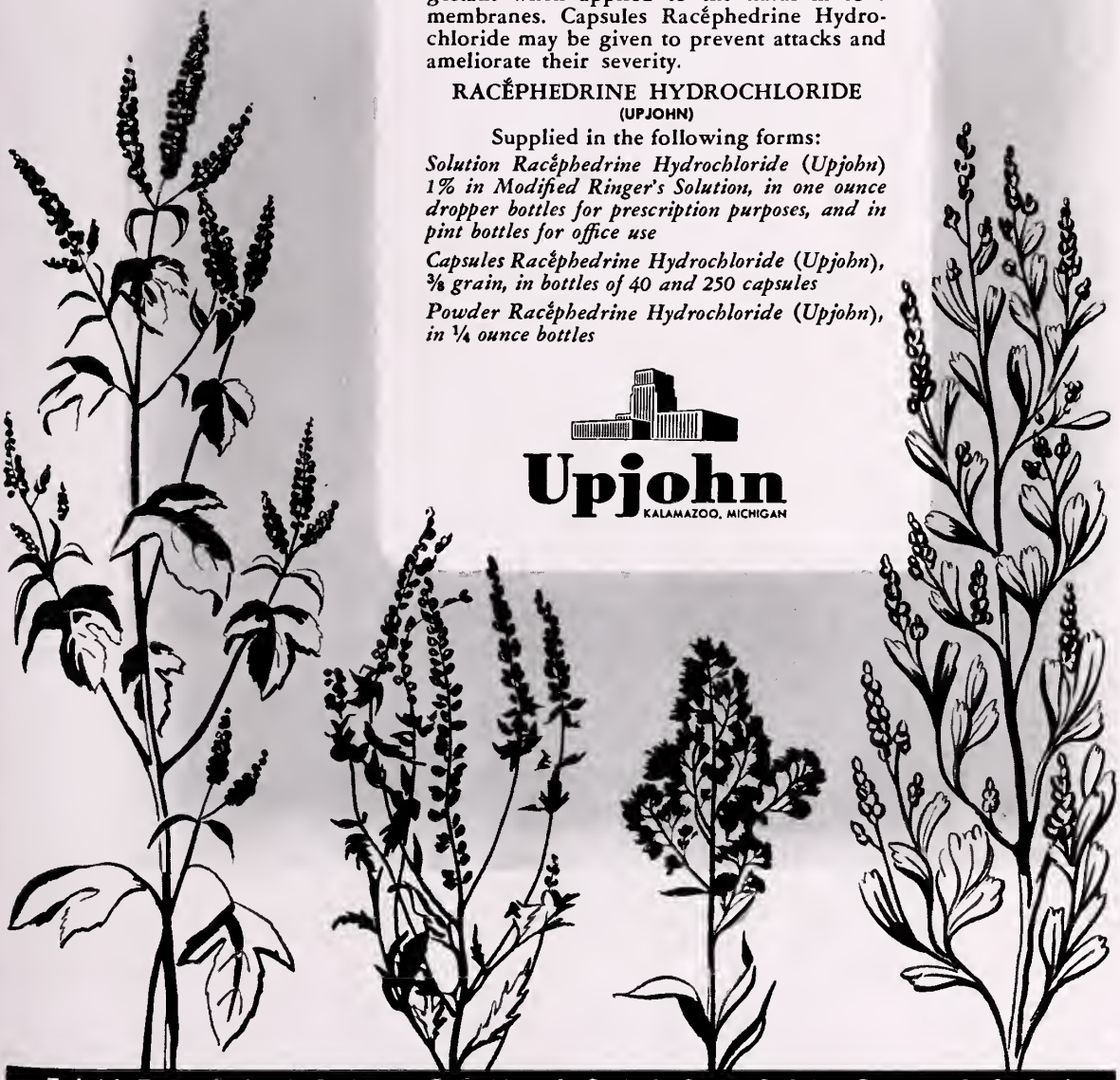

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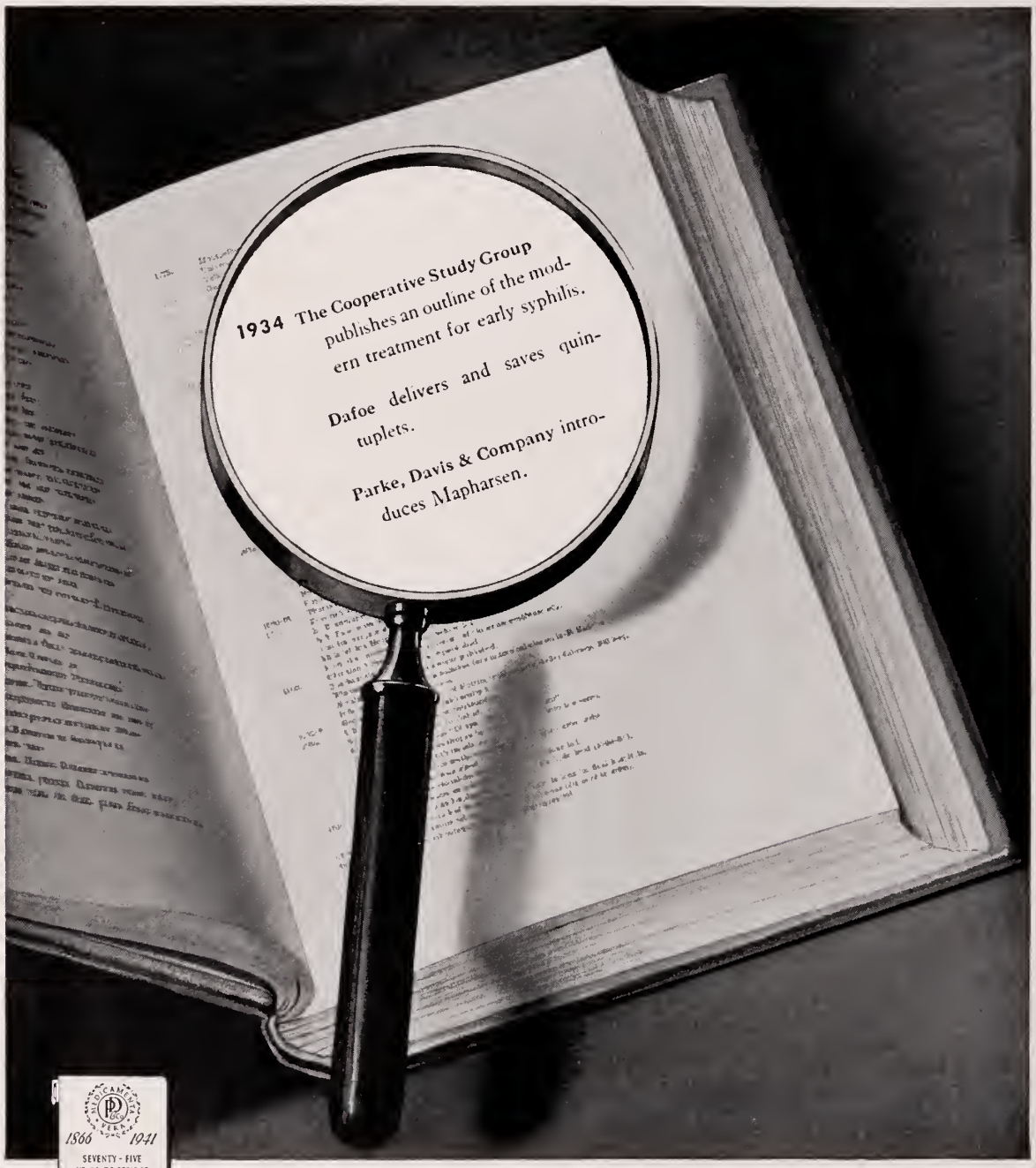
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1940. Am. J. Pub. Health 30, 169.
1939. Food and Life, Yearbook of Agriculture, U. S. Dept. Agr., U. S. Government Printing Office, Washington, D. C., page 276.
1939. Accepted Foods and their Nutritional Significance, Council on Foods of the American Medical Association, Chicago, page 236.
1934. Am. J. Pub. Health 24, 194.

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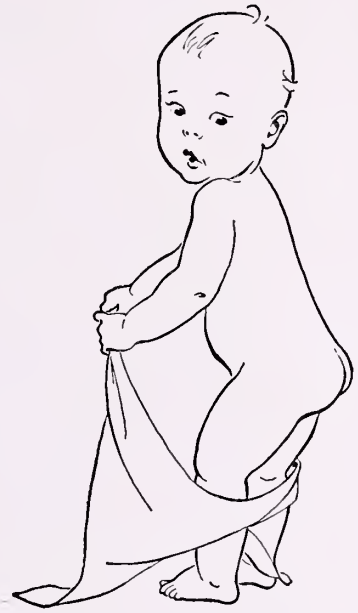

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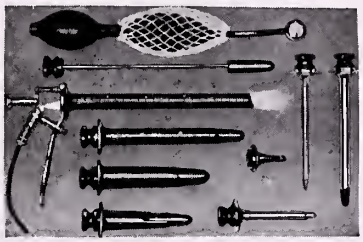

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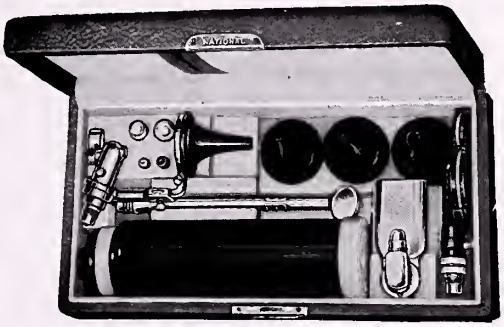

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CARCINOMA OF THE RIGHT COLON

ITS DIAGNOSIS AND PRINCIPLES OF TREATMENT

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Cancer involving the cecum, ascending colon, hepatic flexure, and first third of the transverse colon usually is and should be considered separately from that of the distal half of the large bowel. This concept has more than a clinical basis. Physiologically the right half of the large intestine has as its prime function absorption, whereas that on the left acts largely as a reservoir for the temporary storage of waste material. Anatomically its blood supply is from the superior mesenteric vessels through the ileo-colic, right, and middle colic arteries. The left colon receives its supply from the inferior mesenteric artery, the left colic branch of the latter, anastomosing freely with the middle colic branch of the superior mesenteric artery. Pathologically most carcinomata of the right colon are large, fungating lesions tending only late to constrict the bowel lumen. This is in contra-distinction to the small, scirrhous, constricting growths more commonly seen on the left.

Symptoms

The symptoms of cancer of the right colon are variable and in many instances would seem to bear no direct relationship to the intestinal tract. The presence of large fungating tumors, often with necrotic centers, in that part of the large bowel where absorption is rapid may result in early constitutional symptoms such as weakness, malaise, and symptoms secondary to the anemia which in many instances is out of proportion to blood loss. Moreover, the obstructive symptoms so commonly associated with cancer of the large bowel may be entirely absent, due to the large calibre to the intestine on the right, the non-obstructing character of the growth, and the fluid character of the bowel content.

From the Surgical Services of the Massachusetts General Hospital.

Read at the one hundred and thirtieth Annual Meeting of the Rhode Island Medical Society, Newport, May 29, 1941.

It is important to remember that ten months have elapsed between the onset of symptoms and operation in the patients entering the Massachusetts General Hospital between 1910 and 1941. Therefore the presenting symptoms at entrance may and in fact do vary from the symptoms first noted.

TABLE I

FIRST SYMPTOMS IN 179 CASES OF CANCER OF THE RIGHT COLON
MASSACHUSETTS GENERAL HOSPITAL

Symptom	*Cases*	*Per cent*
Pain	99	55.3
Abdominal cramps	21	11.7
Weakness	22	12.3
Constipation only	8	4.5
Miscellaneous	29	16.2
TOTAL	179	

Pain was the chief complaint in 81 per cent of the 179 patients (Table I) on entrance to the hospital, whereas it was the first symptom in only 67 per cent of this same group. This pain may be and frequently is of two kinds: (1) *Local,* at first intermittent and "stabbing" in character, later it becomes more or less constant. This pain is not severe and, being due to local irritation from the growth, is located directly over it. (2) The typical *colicky, peristaltic pain* of the obstructive type was described in only 12 per cent of these patients. It is usually across the lower abdomen unless the lesion is at or in relation to the ileocecal valve. However, as the obstruction becomes more marked, this finally results in what amounts to an obstruction to the terminal ileum, and resulting cramps therefore are of the small bowel type and are located at or above the umbilicus.

Weakness, usually associated with or due to a severe secondary anemia, was the earliest symptom in 12 per cent of the cases studied.

Palpable mass. It is of interest and of no little significance that patients not infrequently went to

their physician because of a little local soreness and the finding of a slightly tender but otherwise symptomless mass in the right abdomen.

Diagnosis

I once heard Dr. E. P. Richardson say, "If I were to have a cancer of the intestine, I should choose the right colon providing the doctor to whom I went would make the diagnosis." In that sentence Dr. Richardson in a personal way emphasized the fact that the right colon is the most favorable location for a good cancer operation, but that cancer in this location is insidious in onset and the diagnosis usually made late.

Only by thinking in terms of cancer of the bowel can even the alert physician make an early diagnosis. Persistent or recurrent abdominal pain, unexplained anemia or weakness, with or without a change in the normal bowel habits of the individual may be due to and should suggest a malignant lesion of the right colon. Such a diagnosis may be difficult to confirm, and any patient under suspicion can be properly studied only in the hospital. Diagnosis will be made from a detailed history, careful and repeated examinations of the abdomen and of the pelvis (a palpable mass was present in 80 per cent of the patients studied and at times a cancer of the cecum is in the pelvis and felt on pelvic examination rather than through the abdomen). Digital examination of the rectum and a sigmoidoscopic examination are essential to a complete investigation of the large bowel. The blood should be examined to determine the presence or absence of anemia and at least 3 stools should be examined for occult blood. The presence of a definitely positive guaiac test is indication of bleeding from the gastro-intestinal tract and if possible its source should be ascertained. One or more negative tests do not exclude an ulcerating lesion since the guaiac was positive in only 55 per cent of the 101 cases in which it was done. X-ray examination of the bowel by barium enema is the most important single diagnostic procedure and in experienced hands has been highly accurate in recent years. A positive diagnosis was made in 93 per cent of the patients operated upon at the Massachusetts General Hospital during the past 9 years. This is in contrast to an accuracy of only 86 per cent in the preceding years. So high a degree of accuracy can be obtained, however, only after thorough cleansing of the bowel to permit the careful study of the mucosal outline by fluoroscopic examination at the hands of experienced radiologists. The instillation of a large amount of barium by a technician and the taking of a film to be later interpreted by a visiting radiologist is to be condemned. It is to be noted that even under the best conditions and in the most experienced hands certain (7 per cent) of the cases of cancer of the right colon must be operated upon without the confirmation of a diagnosis by X-ray. If this is true in those cases studied under the most ideal conditions, how much more commonly it must be true after the less carefully executed examinations in the hands of the inexperienced. It is important, therefore, never to accept a negative barium enema as precluding such a diagnosis. It is unnecessary, I know, to state that under no conditions should barium be given by mouth to a patient under suspicion of having a lesion in the large bowel until careful studies have first been made by barium enema. This is important for two reasons: first, the giving of barium by mouth may completely obstruct the large bowel if a carcinoma should be present and may even precipitate an emergency operation; secondly, it will always tremendously complicate the problem of adequate cleansing of the bowel prior to resection. Moreover, it is impossible to study the large bowel by barium given from above.

The hyperplastic type of tuberculosis most commonly seen in the ileocecal region, Hodgkins' disease involving the bowel, and appendix abscess are the more important lesions most frequently confused with cancer of the right colon. Since a right colectomy for either of the first two is good treatment, the importance of distinguishing between either of these and cancer becomes more or less academic. Not so, however, in the case of appendix abscess. Unfortunately an accurate differential diagnosis between abscess and cancer is at times impossible. I have seen several such cases in the hospital and have recently had a fatal case of my own where the pathologist, with the bowel removed from the abdomen and on the post-mortem table, was in error until he had actually broken through the mass into the lumen of the bowel and was unable to demonstrate the cancer that he thought was present. If from history, physical findings, and X-ray examination an accurate diagnosis cannot be made, it is better to consider the lesion as malignant and do an ileo-transverse colostomy without ex-

ploration than to make a direct attack upon the mass in the hope of being able to decide without breaking into the highly infected area.

Treatment

It is not the purpose of this discussion to go into the details of operative treatment. There is no disagreement between surgeons of experience as to the character of operation: 6 to 8 inches of terminal ileum, the entire right colon to a point well beyond the hepatic flexure, together with the mesentery, its vessels and lymphatics, are removed and an anastomosis done between the terminal ileum and transverse colon. With complete agreement in the above principle, there is wide disagreement in the details of this procedure. Should the operation be done in one or two stages? Should the surgeon do an end-to-end, an end-to-side, or a side-to-side anastomosis? Or should a Mikulicz[1] type of operation be carried out?

In common with most opinions, the writer strongly favors some form of anastomosis rather than the Mikulicz procedure for this part of the large bowel. A long and close association with the late Dr. D. F. Jones resulted in an early preference for the resection in one stage. However, the successful removal of extensive lesions in poor-risk patients upon whom I have felt sure a one-stage operation could not have been successfully accomplished, and the insistence of Allen[2] and others that the two-stage operation was the safer procedure, has resulted in the gradual elimination of the operation in one stage except in selected young, good-risk cases without obstruction. This preference has been reached in spite of the objections which are readily raised to any two-stage procedure: two anesthesias, two laparotomies, a longer period of hospitalization, and others. How can I feel otherwise when I compare my own results after the one and two-stage procedures? (Table II)

At the Massachusetts General Hospital the results are not so strikingly shown. (Tables III and IV). It must be noted, however, that whereas the mortality of the two-stage procedure in this group does not show such a marked decrease over that of the one-stage operation, the operability has been increased nearly 10 per cent; moreover in earlier years when the one-stage operation was the accepted procedure, most of the operations were done by the senior members of the staff, whereas at the present time most of the operations, particularly those done in two stages, are done by the junior members of the staff including the surgical residents.

From a careful study of these records it is therefore my impression that the adoption of a two-stage procedure has made it possible to operate upon certain poor-risk and advanced cases which could not have been successfully operated upon in one stage, and that it has brought within the range of less experienced surgeons an important surgical procedure. In the hands of men of more than average experience it has definitely lowered the operative mortality.

TABLE II

MORTALITY — ONE AND TWO STAGE RESECTIONS
PRIVATE CASES
1932 — 1941

	Cases	*Mortality*
One Stage	11	27.3%
Two Stage	17	5.9%
TOTAL	28	14.3%

Operability 74.4 per cent

TABLE III

MORTALITY — ONE AND TWO STAGE RESECTIONS
MASSACHUSETTS GENERAL HOSPITAL — 1910 - 1932

	Cases	*Mortality*
One Stage	37	29.7%
Two Stage	3	0
TOTAL	40	27.5%

Operability 49.4%

TABLE IV

MORTALITY — ONE AND TWO STAGE RESECTIONS
MASSACHUSETTS GENERAL HOSPITAL — 1932 - 1941

	Cases	*Mortality*
One Stage	21	30.0%
Two Stage	33	21.2%
TOTAL	54	25.9%

Operability 66.3%

Pre-Operative Study and Preparation for Operation

Aside from the careful evaluation of the cardiovascular background of the patient, the degree of anemia and the nutritional state represent the two most important aspects of the pre-operative study and preparation of the patient. Half of our patients have a moderate to marked anemia. Their nutritional state is very apt to be disturbed. The former is readily discernible by a study of the red blood count and hemoglobin, and determination of the

level of the serum protein may be helpful in the latter. While a relatively normal level of serum protein does not mean that the protein reserves may not have been depleted, diminution of the level of serum protein to 5.5% or below may be taken as positive evidence that the patient is suffering from abnormal protein loss, inadequate food intake or improper absorption. It would seem fair to suppose that included in this state of malnutrition is a generalized vitamin deficiency. It is therefore our policy by transfusion, single or multiple, to bring the red count and hemoglobin in all patients to approximately normal level before resection is done. Patients are placed on a diet relatively low in residue, and high in protein and carbohydrate. Patients are also placed on high vitamin intake, particularly vitamin-C and the B complex. Depending upon the patient's previous diet and condition at admission, 200 to 300 milligrams of cevitamic acid and the B complex in the form of 9 Brewer's Yeast tablets or corresponding amounts of the concentrated products are given daily.

Principles of Surgical Technique

If a one-stage operation is contemplated, a Miller-Abbott tube as suggested by Whipple[3] should be introduced 36 hours before operation in order that it may have plenty of time to pass through the pylorus and be well down toward the terminal ileum at the time of operation. If a two-stage operation is contemplated, the average patient will be ready for operation within 5 to 7 days of admission to the hospital. Only rarely should operation be undertaken after a short interval of time. If the patient enters with definite obstruction, even of only moderate degree, the Miller-Abbott tube should be promptly passed and the obstruction relieved. It is important to realize that once the tube has passed the pylorus, the feeding of the patient may be started immediately[3]. Only in rare instances will the obstruction be so complete that emergency surgery is indicated. It should be remembered that a cecostomy as an emergency procedure for a lesion for which a right colectomy is to be done complicates a good deal the second procedure, although it is equally important to realize that there is no contra-indication to a cecostomy if the degree of obstruction makes it imperative and the cecum is not involved with the growth. Since the only object of such a procedure is immediate relief of the distended obstructed cecum, it can frequently be more safely and more easily accomplished by delivering a distended appendix, if such is found, through the incision. After closure of the wound around it, a catheter can be easily placed into the bowel through its lumen. The two-stage procedure can then be carried out deliberately as in the unobstructed bowel.

In the two-stage procedure the first operation should be done through a paramedian incision to the left of the umbilicus. The liver is explored at the first operation, but only a minimum of exploration is carried out in relation to the growth. Every effort should be made at this operation to avoid unnecessary intra-abdominal trauma and thus to prevent the development of adhesions in the right side of the abdomen. Without placing any gauze in the abdominal cavity a lateral anastomosis (Fig. 1) is made between the terminal ileum about 8 to 12 inches from the ileo-cecal valve and the transverse colon, usually just to the right of midline. Fine catgut makes a satisfactory suture, though if this is used nothing heavier than a No. 00 should be used. No. 000 or even No. 00000 may advantageously be used in the outside layer. The underneath surface of the omentum is then carefully tacked down along the suture line, using interrupted fine silk for this manoeuvre.

The second stage may be done in from 2 to 3 weeks after the completion of the first stage. I prefer a 3-week interval in most cases for the following reasons: (1) the healing of the anastomosis is more solid and complete; (2) the additional week makes it possible to improve greatly the nutritional state of the patient because of the more adequate diet and the added vitamin intake.

Either a right paramedian or, as the writer prefers, a muscle-splitting incision on the right is used for the second stage. The entire right colon is freed and the terminal ileum and transverse colon divided close to the anastomosis so that when the ends are turned in practically no blind loop remains on either segment of bowel. Great care must be taken in dividing the mesentery to make certain that adequate blood supply remains to the anastomosis. Because the blood supply to the colon is variable, it is my custom never to do an anastomosis or to close in a blind end unless I am certain that there are pulsating vessels at the point of division. This can usually be determined on careful observation of the small mesenteric vessels, but if their pulsations cannot be seen, one can easily divide one of the smaller vessels near the bowel before a clamp is

applied. This is an untidy but a practical way of making certain of the adequacy of the blood supply.

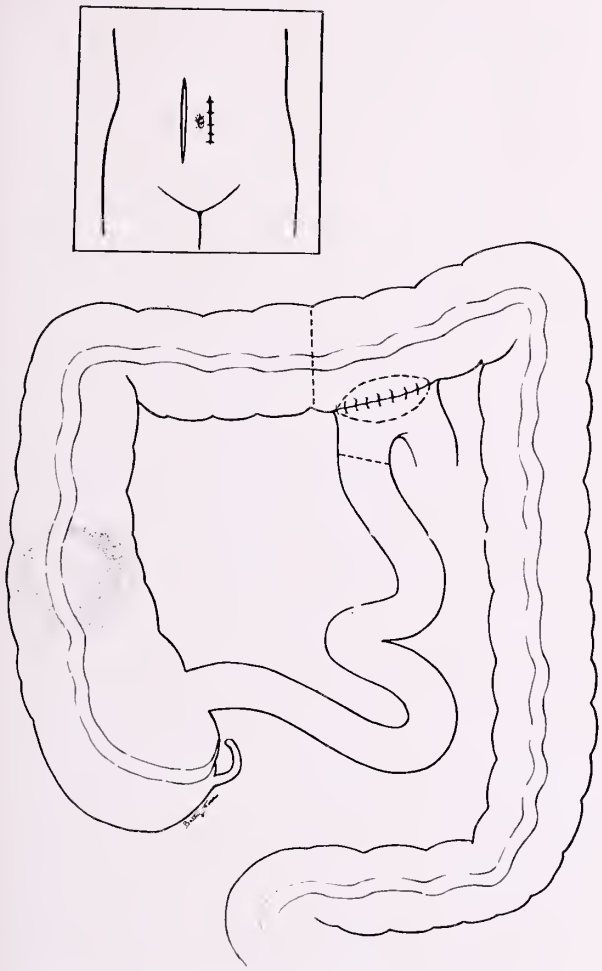

Fig. 1. Diagrammatic drawing showing location of incisions. The entire right colon between the dotted lines near the anastomoses is removed. It is important that the bowel be transsected close to the previous suture line.

The closure of the right gutter is always unsatisfactory, but in nearly every instance it can be accomplished with reasonable satisfaction particularly if care has been taken at the first stage and there are not a great many adhesions and a good deal of fixation around the line of anastomosis. Drainage through a stab wound well out in the right flank is used only in case the right gutter is moist. If bleeding has been completely controlled and the field is dry, I can see no reason for drainage. If, on the other hand, there is an excess of oozing, or if there has been fixation of the peritoneum from thickening secondary to the growth and a dead space has been left in this region, there is no objection to the placing of a drain into this area, providing the drain does not come in contact with the suture line.

Postoperative Care

The postoperative care of these patients is a simple and rather routine matter, and depends upon an understanding of certain fundamental principles of the healing of intestinal anastomoses. Any suture line in the intestine is weakest on the fourth or fifth day of a normal convalescence. Moreover, healing will always take place with less reaction if the parts are quiet. It is obviously impossible to splint the bowel. On the other hand, early or excessive feeding will result in more active intestinal peristalsis than is necessary or desirable. Patients are given liquids without milk, consisting largely of tea with sugar, gruel, and malted milk made with water for 5 days. On the sixth day of an uneventful convalescence milk is added to the diet. From then on the diet is rapidly increased so that seven or eight days after operation the patient is on his original low-residue diet. Morphine is given freely throughout the first five days. Little attention is paid to the bowels except for the frequent use of a rectal tube to aid elimination of gas. On the fifth or sixth postoperative day 4 ounces of warm oil are placed in the rectum and this is repeated daily for 2 days. If at the end of a week the bowels have not moved, milk of magnesia is given, 2 drams every hour for 4 doses or until the bowels move. Rectal impaction is not frequent after resection of any part of the colon and at the first suggestion of rectal irritation a digital examination should be made.

Summary

The symptomatology of cancer of the right colon based on a study of 179 cases from the Massachusetts General Hospital is reviewed.

The difficulties of arriving at an early diagnosis are discussed.

Hospital and private mortality rates in one and two-stage operations are reviewed.

The two-stage operation (1) side-to-side ileotransverse colostomy followed in three weeks by (2) resection of the right colon is advocated as the operation of choice.

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THE PRESENT STATUS OF OUR KNOWLEDGE CONCERNING SULFADIAZINE

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Since the introduction of sulfanilamide for the treatment of streptococcic infections just six years ago, the field of therapeutics has undergone a rapid and spectacular transformation. The medical literature glowed with reports of its success in a myriad of cases, and the science of chemotherapy seemed about to fulfill the brilliant promise envisaged for it many years ago by Paul Ehrlich. Quickly other chemical agents related to sulfanilamide were introduced. Some have been found effective and retained, others tried and discarded. Coincident with the fine results obtained from the use of these drugs, came other reports, reports of toxic effects, some minor and negligible, others serious and demanding wariness on the part of the physician employing these chemicals. It was evident then, that further progress in chemotherapy must be in two directions. The first is that new drugs be found that are effective against the great variety of organisms pathogenic for man, and the second, that these drugs be non-toxic to the person to whom they are administered. Progress has been made, and is being made in both directions, so that we are approaching Ehrlich's ideal, namely, drugs that are "maximally parasitotropic and minimally organotropic".

We are already familiar with some examples of increased effectiveness with lessened toxicity. Sulfathiazole is a good illustration of this. Sulfanilamide was early found to be fairly effective in gonococcic infections, and subsequently sulfapyridine was found to be even more potent. In effective doses, however, undesirable side effects were noted such as cyanosis, nausea, vomiting, and the more serious bone marrow depressions resulting in agranulocytosis, or aplastic anemia. Extensive clinical trial now gives well-substantiated evidence that sulfathiazole is much more potent against the gonococcus than sulfanilamide, somewhat more effective than sulfapyridine, but considerably less toxic than either.

Read at the monthly staff meeting of the Charles V. Chapin Hospital, Providence, June 25, 1941.

Sulfadiazine, the new drug under discussion today, promises to be a long step forward toward greater effectiveness with lessened toxicity. Sulfadiazine was synthesized by the research chemists of the American Cyanamid Company. It is sometimes referred to in the literature as 'sulfapyrimidine' as a closer approach to its chemical name, 2-sulfanilamido-pyrimidine.

Carefully controlled animal experiments with sulfadiazine have been performed by Feinstone and his co-workers and reported in the Bulletin of the Johns Hopkins Hospital[1]. Using mice that had been carefully standardized in regard to breeding, diet, and living conditions, the toxicity of sulfadiazine was studied, as well as its effect on experimental infections. Sulfadiazine was administered to the mice orally, subcutaneously, and intravenously. On equal dosage the toxicity for mice was found to be about the same as that of sulfanilamide, and somewhat less than that of sulfapyridine or sulfathiazole. However, the blood levels obtained with sulfadiazine were four to five times higher than those obtained with corresponding doses of the other chemicals, so it is reasonable to assume that at equal blood levels the toxic effects from sulfadiazine would be much less than from any of the other sulfonamides studied.

Certain other facts were elicited by Feinstone. The absorption of sulfadiazine was found to be rapid, while its elimination was comparatively slow. Finally, microscopic sections of the tissues of autopsied mice were studied, after the mice had been maintained at parallel blood concentrations of sulfadiazine, sulfapyridine, and sulfathiazole. The deleterious effects on the tissues were strikingly less in the case of sulfadiazine. The difference was especially noteworthy in the case of changes occurring in the urinary tract. This may be explained in the following manner. The acetylated forms of the sulfonamides are known to be much more toxic than the free substances. Acetylation or conjugation is particularly prone to occur with sulfapyridine. We are all familiar with cases in which hematuria, oliguria, and even anuria have occurred in patients under treatment with sulfapyridine. This occurs because the low solubility of acetylsulfapyridine causes concretions in the kidney pelves, in the ureters, or in the bladder. There is relatively little difference in the solubilities of the various conjugated sulfonamides in water, but the solubil-

ity of acetylsulfadiazine in urine is much greater than that of the others. This greater solubility of acetylsulfadiazine will probably be an important factor in decreasing the damage that results from the precipitation in the urinary tract of other acetyl compounds, particularly acetylsulfapyridine. This, together with the fact that sulfadiazine is not acetylated as readily as sulfapyridine, should make kidney damage with this drug infrequent.

After determining the toxicity, absorption, excretion, and toxic effects on tissues, Feinstone tested the efficacy of sulfadiazine against experimental infections in mice. Using standard strains of organisms known to be mouse-virulent, he found that this drug was at least equal to the other sulfonamides in saving mice from streptococcic and pneumococcic infections. Furthermore, he found it peculiarly effective against Group B Friedländer bacilli, against which the other drugs were of practically no value. This suggests that we may soon have an effective agent against the Friedländer infections in man hitherto so resistant to treatment.

The laboratory experiments with sulfadiazine were so promising that reports of its effect on human beings were soon to appear. Before being put to use in the treatment of disease, its absorption, distribution, and excretion were studied following both single and multiple test doses. Peterson and his co-workers[2] at Harvard published one such report. A standard dose of 5 Gm. of sulfadiazine was used to compare absorption and excretion from different routes. The dose was administered orally, intravenously, subcutaneously, and rectally. The results are significant. Maximum blood levels were obtained immediately following the intravenous injection, two or three hours after subcutaneous administration, and four to six hours after the oral doses. Higher levels were reached in the blood and these were maintained longer than with either sulfanilamide, sulfapyridine, or sulfathiazole. Very little of the drug was absorbed after rectal administration. It was given rectally both as a suspension of powdered sulfadiazine and as a solution of the sodium salt. With the former, only traces were detected in the blood and with the latter, maximum blood levels of only 1.6 to 2.8 mg. per hundred cubic centimeters were obtained. It may therefore be stated at this point that the rectal route is not satisfactory for the administration of sulfadiazine. With the other routes, however, moderate blood levels were still present after twelve hours, appreciable levels after twenty-four hours, and traces even after forty-eight hours. There was considerable variation in the maximum blood levels attained after the single 5 Gm. dose, depending for the most part on the body weight of the individual. The range was from 5 to 20 mg. per hundred cubic centimeters, the average range being 9 to 14.

As far as the distribution in the blood is concerned, sulfadiazine resembles sulfathiazole in that the concentration in the plasma is higher than that in the red cells. Its distribution in the various body fluids was also studied. Sulfadiazine passes readily into the spinal fluid, being like sulfapyridine in this respect and unlike sulfathiazole. Its level in the spinal fluid after single doses by mouth was difficult to evaluate, but on a regular four-hour therapeutic schedule, spinal fluid sulfadiazine concentrations were found to average about two-thirds of the simultaneous blood levels. In pleural, pericardial, and ascitic fluids the levels approximated the blood levels closely. As might have been predicted from animal experiments, acetylation of sulfadiazine in human beings was slight, only insignificant proportions of the blood content being in this form. Sulfadiazine is excreted almost entirely through the urinary tract, and only 20 to 35 per cent of the total drug administered was recovered from the urine in conjugated form. Crystals of the acetylated drug were observed in the urine occasionally, but neither gross nor microscopic hematuria, nor nitrogen retention attributable to the drug was absorbed by these workers. In this test series, 100 patients received the drug without any evidence of severe toxic effects. The gastrointestinal symptoms and mental depression characteristic of sulfapyridine therapy, and frequently observed with sulfanilamide and sulfathiazole, were noticeably lacking in these patients.

The results of treatment with sulfadiazine in patients with clinical infections are now being reported. In the June 14 issue of the Journal of the American Medical Association, Finland, Strauss, and Peterson[3] record their results with 446 patients treated with sulfadiazine on the medical wards of the Boston City Hospital. In 178 cases of pneumonia due to the pneumococcus, there were 19 deaths, giving a gross case mortality rate of 10.7 per cent. This compares with a mortality rate of 16.3 per cent in a similar series the previous year, treated with sulfapyridine and sulfathiazole with or without serum. Among the fatalities, most were

moribund on admission and died within twenty-four hours or had some severe complicating condition.

Among the other specific pneumonias due to staphylococcus aureus, streptococcus hemolyticus, and Friedländer's bacillus, the gross mortality rate was 20 per cent. One recovery was reported in a man with a Friedländer type A pneumonia involving the entire left lung who became afebrile and symptom-free sixteen hours after the first dose of sulfadiazine. Other acute infections were treated with good results. Eight cases of facial erysipelas were reported, four with extensive involvement, edema, high fever, and toxemia. All improved definitely twelve to thirty-six hours after therapy was begun and made complete recoveries.

In general, sulfadiazine appeared to be highly effective in the treatment of the following diseases: pneumococcic, staphylococcic, and streptococcic pneumonias, meningococcic infections, acute infections of the upper respiratory tract including sinusitis, erysipelas, acute infections of the urinary tract, particularly those due to B. escherichia coli, and acute gonococcic arthritis.

The toxic effects of sulfadiazine were mild and infrequent. Nausea and vomiting occurred in 9 per cent of the cases. Nitrogen retention of moderate degree occurred in five cases. Three cases of transient leucopenia were noted. Morbilliform eruptions were observed in nine cases and appeared on the eighth day or later. In one case there was renal colic, hematuria, and anuria, which were relieved by ureteral lavage. A number of patients admitted with definite evidence of renal or hepatic damage were treated without further impairment and some showed actual improvement of function during sulfadiazine therapy.

In regard to the efficacy of sulfadiazine in the treatment of meningococcic meningitis, a separate report has just been published by Dingle and his co-workers[4] on the results of an epidemic in Halifax, Nova Scotia. Sulfadiazine was used as the sole specific agent in the treatment of 13 patients with meningococcic meningitis and one with meningococcemia and arthritis but without meningitis. Diagnosis was confirmed by complete bacteriological studies. One patient with meningitis died ten hours after admission. The other 13 patients, most of whom were seriously ill, recovered completely and on the average were symptom-free at the end of five days. The only complications noted in this series were microscopic hematuria on two occasions which cleared quickly without residua. Nausea, vomiting, dermatitis, cyanosis, or mental symptoms attributable to the drug were not present. These workers had previously had the opportunity of treating a similar series with sulfapyridine with which they had obtained excellent results. They conclude that the drugs appear to be about equally effective against the meningococcocus, but that sulfadiazine has the advantage of being considerably less toxic.

This, then, concludes the data currently available concerning the actions and uses of sulfadiazine. To summarize briefly:

1. Sulfadiazine has proved less toxic than the other sulfonamides in animal experiments and is at least as effective in experimental infections.

2. Sulfadiazine is readily absorbed from the gastrointestinal tract in man and high blood levels are easily obtained.

3. The excretion of this drug is slower than that of the others and conjugation occurs to a lesser extent.

4. Sulfadiazine penetrates into the spinal fluid and other body fluids in effective concentrations.

5. The common toxic symptoms occurring with other sulfonamides have also occurred with sulfadiazine but are noticeably less frequent and less severe.

6. Clinical use in nearly 500 cases has shown it to be remarkably effective in pneumococcic, streptococcic, staphylococcic, and meningococcic infections. It also gives promise of being useful in other conditions.

Sulfadiazine is, then, another important step toward the production of chemotherapeutic agents that will fulfill Ehrlich's ideal.

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LAW VERSUS MEDICINE

For many centuries medicine has been one of the "learned professions." Trade has been defined as "buying or selling for gain." At the recent trial of the American Medical Association et al., for "conspiring together for the purpose of restraining trade", it was to be proved that the American Medical Association et al. had conspired together to restrain trade, as practiced by Group Health Association in buying and selling medical services. Beside the admission that Group Health Association was engaged in the practice of medicine, the question of medicine as a profession or as a trade had no possible bearing on the case.

Characteristic of American Medicine are scientific meetings, recurring with such frequency that attendance has become a habit of the medical profession. In every city and town, in every state and county, in hospitals and academies of medicine these meetings constantly contribute to the origin and extension of medical knowledge. Then there are sixty national medical societies, broadcasting to the entire profession, at their annual meetings and through the journals which publish their transactions, the most recent achievements of medicine and its specialties.

The object of all these societies is indicated in the name of one of the earliest, which for a hundred years kept the name, "The Boston Society for Medical Improvement", a society grafted on a root planted still a hundred years earlier, "The Boston Medical Society." In 1781, the Massachusetts Medical Society was formed. The Rhode Island Medical Society was incorporated in February, 1812, its power and authority, "to examine candidates for practice in Physic and Surgery and if they be found skilled for the practice of their profession, they shall receive the approbation of such Society."

In 1846, delegates from the various state societies met at Baltimore and founded the American Medical Association, a federation of state medical societies, its object, "to promote the science and art of medicine and the betterment of public health." The American Medical Association consists of the federated state societies, which in turn are made up of component county or district societies.

Fitness for membership in county or district societies is determined by committees of these societies and fellowship is conferred by a majority vote at a regular meeting. As membership in a component society is open to every reputable physician in the community, a rejected applicant may claim the right of appeal to the state society, then to the American Medical Association, and finally to the courts of law. These organizations have shown little disposition to overrule the judgment of the district societies.

Once passed as a member of a district society, without further examination the physician is immediately eligible for membership in the state society and for fellowship in the American Medical Association. Loss of membership in his district society entails forfeiture of membership in the state society and in the American Medical Association.

The American Medical Association, newly founded, discovered plenty to do in fulfilment of its objects, "to promote the science and art of medicine and the betterment of public health." Untrained physicians practiced without license, the standard

of medical education was low, hospitals were poorly equipped and staffed, markets were flooded with nostrums containing undesignated amounts of alcohol and such habit forming drugs as morphine and cocaine. The medical schools were so far inferior to those in Europe that study abroad was essential to a satisfactory medical education. Except for medical departments of some universities the medical schools were projects of groups which conducted them for the financial gain of the owners rather than for the benefit of the students or for the good of the public.

Surprising is the success of the American Medical Association in combating these conditions. The Council on Medical Education and Hospitals investigated conditions in the medical schools of the country and published in the pages of *The Journal of the American Medical Association* a list of Approved Medical Schools. Soon those schools not on this Approved List found it to their advantage to raise their standards to the point of approval or to close their doors. There are now seventy-six medical schools in the United States and Canada which are on the list of schools recognized.

Cooperating with two other national organizations, the American College of Surgeons and the American Hospital Association, the American Medical Association then investigated hospitals. Standards were set and hospitals grouped, A, B, C, D. Now there are 732 hospitals Approved for Training Interns, 587 hospitals with Approved Residencies and Fellowships in the medical specialties. Medical education in the United States and Canada is now acknowledged as superior to that in any other country.

In 1905 the Council on Pharmacy and Chemistry was established, with the object of "gathering and disseminating knowledge for protection of the medical profession in prescribing proprietary medicinal articles." The Council examines products which are submitted for its approval and publishes a record of its findings in "New and Non-official Remedies." There is no higher recommendation for a new remedy than the statement that it is "Council Approved."

In all of these activities the American Medical Association has used no form of coercion. It simply has approved or disapproved medical schools, hospitals, and medical articles, and has publicized its approval or disapproval. And no dealer in "Painkiller" or "Soothing-syrup" has yet indicted the Association for conspiracy in restraint of his trade in morphine.

No physician is obliged to join the American Medical Association or any of its component societies. In Rhode Island, of 961 legally qualified physicians, there are 503 members of the State Medical Society, of which number 348 are Fellows of the American Medical Association. In the District of Columbia there are 2,243 legally qualified physicians and only 883 members of the District Medical Society. Because of the great number of legally qualified physicians who are not members of the District Medical Society nor Fellows of the American Medical Association, these organizations are ill equipped for conspiracy for restraint of trade in medical service.

The District of Columbia Medical Society disapproved of the activities of Group Health Association, a corporation organized under political control for the purpose of selling medical service to employees of the Federal Government on an insurance basis. The District Medical Society decided that its members should not sell their services to Group Health Association. The American Medical Association approved this action. The Trustees of certain Washington hospitals ruled that members of their medical and surgical staffs must be members of the District Medical Society. Group Health Association was not thereby prevented from buying medical service but was unable to employ any of the 883 members of the District Society and the physicians that they did employ were refused membership in the Society nor were they appointed to positions on the staffs of the Approved Hospitals.

The Federal Government then issued an indictment against the American Medical Association, the District of Columbia Medical Society and certain officers of these organizations, for conspiracy in restraint of trade in violation of the Sherman Anti-Trust Act. The trial was ably contested by attorneys for the Government and for the medical societies. On every working day for two months the battle went on. By the end of this time the issue had become so clouded in the minds of the jurors that a just decision must have been difficult if not impossible. The jury decided that the American Medical Association had conspired in restraint of trade with one of its constituents, the District of Columbia Medical Society, and that both were subject to fine for their wrongdoing.

If this verdict holds, what happens to the right of a district medical society to decide on the qualifications for membership of a candidate for election to the society? What happens to the right of the American Medical Association to approve the decision of a district society? The right of approval is the only power of the American Association. Loss of the power of approval would be the beginning of the end of the great humanitarian work which the American Medical Association has conducted for the past ninety-five years.

CORRESPONDENCE

BLUE CROSS

Hospital Service Corporation of Rhode Island

• Disappointed Surgeon •

Dear Sir:

I read, with great interest, your letter of May third which was published in the June issue of the Rhode Island Medical Journal. We are in sympathy with your views, and if the abuses indicated in your letter actually exist, then this organization is anxious to cooperate in every way possible to reduce or eliminate such abuse of the plan.

Based on complete statistics which we have accumulated from the inception of the plan, there is no apparent overabuse of the plan beyond what would normally be expected. Our records and statistics are open to the public, and should you ever wish to see them, we should be only too glad to throw open our books to you.

I can't help conclude that the answer to this problem is under the control of the physician in charge of the case. My reason for believing this is that the Blue Cross contract provides that the determination of the need for hospital care and the duration of the patient's stay, is under the control of the attending physician. Further, our contract provides that as soon as the patient is discharged by the attending physician, the liability of the Blue Cross shall cease, and any further stay in the hospital would be at the expense of the patient.

If all doctors will discharge each Blue Cross patient as soon as his or her physical welfare permits, and so notify the hospital or the Blue Cross of the discharge, we shall then invoke the provision of the contract which would make the patient responsible for any stay beyond the date of discharge, as determined by the doctor.

I am pleased that you brought this matter to the attention of other physicians and I wish to assure you of our willingness to cooperate at all times. If there is any information you desire of this organization, we shall be pleased to furnish it to you upon request.

Sincerely yours,

Stanley H. Saunders,
Executive Director

ANNUAL DUES

August 1, 1941

Rhode Island Medical Journal,
To the Editor.
Dear Doctor:

I have joined the Rhode Island Medical Society and paid ten dollars for dues. I am not complaining about the size of the dues but am wondering what I get for the money. Your Rhode Island Medical Journal is worth the two dollars that it costs me. I hear that I will get a free ticket for the dinner at the next annual meeting and that also I have the use of the Medical Library. I am not sure that I care about the free dinner but I know that I will not drive forty miles very often to use the library.

I make a suggestion which you are free to publish for what it is worth. Why not give the library to the Providence Medical Society? The Providence men have the use of the library. Why should they not be willing to pay for it instead of requiring members of the other county societies to contribute for their benefit? I may be wrong but I think that the dues of the Rhode Island Medical Society should be two or three dollars a year including subscription to the medical journal. Let the men who want the annual dinner and who have use of the library pay their own way.

Respectfully,

Country Practitioner

MEDICAL PREPAREDNESS

It will no doubt interest the medical men of Rhode Island to know that of the approximately 1000 men registered in the State, considerably over 900 filled out the Questionnaire sent over a year ago by the A.M.A. to all the doctors in the Country.

This gives Rhode Island a high percentage of replies amongst the States of the Union and should be a great satisfaction to our local profession.

Although the State and County Committees for Medical Preparedness have made a most earnest effort to effect a complete record in replying to the Questionnaire, the men whose names are listed below are still recorded as delinquent by the A.M.A.

PROVIDENCE: Hilary Joseph Connor, M.D., Henry Joseph Gallagher, M.D., Jerome Joseph McCaffrey, M.D., Llewellyn Joseph McGovern, M.D., Benjamin S. McKendall, M.D., Thomas Francis Mournighan, M.D., Arthur Roland Newsam, M.D., Vincent Joseph Oddo, M.D., Alexander Francis Marzilli, M.D., Ciro Ottorino Scotti, M.D.

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PORTSMOUTH: Berton Wendell Storrs, M.D.

TIVERTON: Charles H. Bryant, M.D.

WATCH HILL: Edmund Leroy Dow, M.D.

WESTERLY: Paschal Joseph Celestino, M.D., Mildred Irene Robinson, M.D.

WOONSOCKET: Cyril Israel, M.D.

The Committee on Medical Preparedness has been recently informed that in a short time the books will be closed, so to speak, and that the Questionnaires of delinquents will be filled out by the A.M.A. Office to the best of its ability.

It is earnestly requested that all those who find themselves correctly on this list will fill out and promptly return the Questionnaire to the A.M.A. Office in Chicago.

State Committee for Medical Preparedness

DOG BITE AND ITS MANAGEMENT
REPORT OF TWO CASES

EDWARD J. WEST, M.D.
AND
D. WILLIAM J. BELL, M. D.
PROVIDENCE, RHODE ISLAND

Because of its agonizing symptoms and hopeless prognosis, rabies, or hydrophobia, causes more public fear and notoriety than almost any other disease of man. While the number of cases occurring in humans in this locality is extremely small, the nature of the disease explains the public anxiety and widespread interest.

From the Charles V. Chapin Hospital.

There have been only thirteen deaths following dog bites in the city of Providence in the eighty-four years since the first Public Health Report was published in 1856. During the twenty-five-year period from 1915 to 1939 inclusive, there were 2,260 cases of dog bite reported to the Providence Health Department. In the same period, the heads of 108 dogs were found to be positive for rabies, while 40 were reported as suspicious by the State Laboratory. In this series, courses of antirabic vaccine were given to 307 persons and there were two deaths from rabies and one fatality attributed to the vaccine.

One of the deaths from rabies occurred in 1920 in a seventeen-year-old male who developed symptoms fifty days after being bitten on the neck by a dog. The dog's brain proved to be positive for rabies but the patient received no prophylactic antirabic vaccine. He died fifty-three days after the bite.

The second death from rabies was in 1922 in a boy of eleven years. Two days after he was bitten by a dog on the face and hand, a course of twenty-five injections of antirabic vaccine was begun. Symptoms developed fifty-two days after the bite and the boy died three days later.

The death from antirabic vaccine which occurred in 1928 was reported by Smith and Murphy[1]. This was a thirty-nine-year-old male who received fourteen inoculations beginning on the day the dog's head was reported to be positive for rabies. He developed symptoms after the last inoculation and died two weeks later with an extensive paralysis.

In the past year, two cases were admitted to the Charles V. Chapin Hospital with grave symptoms resulting in death, and both following the bite of a dog. One was a case of human rabies and the other was a patient who developed encephalitis following the administration of prophylactic antirabic vaccine. We shall report these cases in some detail, and also attempt to outline some of the problems involved in the management of dog bite.

Case Reports

Case 1. M. D., a nine-year-old school girl, was bitten by a dog on August 21, 1940, on the left forearm. The wound was cauterized and sutured on the same day. The dog disappeared but the patient received no prophylactic treatment. She was apparently well until October 6, forty-six days after the bite, when she began to complain of pain in the left arm. On the following day, the pain was of such severity that she remained home from school and

sought medical attention. There was no evidence of local infection about the site of the bite, which had apparently healed by first intention, but the pain radiated up the whole arm and into the shoulder and breast. It persisted in spite of local applications.

The patient showed no other symptoms until October 11, fifty-one days after the bite, when she awoke complaining of a sore throat and difficulty in swallowing. The pain in her throat became more severe during the day and she was unable to swallow even her saliva. She became extremely apprehensive and almost maniacal at times and she was admitted to the hospital about 5 P. M.

The patient was found to be a well nourished and well developed girl rather large for her age. Her eyes were wide open and the pupils were widely dilated, but reacted to light. She was very restless at times, jumping around in bed with extremely quick movements, while at other times she was quiet and cooperative. She was extremely apprehensive of every movement in the room and presented a picture of intense fear. She was constantly reaching for the basin and spitting into it. When asked to drink water she became excited, thrashed about, and refused, saying she was afraid of "wetting the bed". Finally, after considerable persuasion, she drank a full glass of water in gulps, grasping her throat with each swallow and voiding during the procedure.

During her quiet intervals, she would relax and converse freely in a clear, intelligent, and coherent manner, but on the slightest provocation she would resume an attitude of apprehension, thrash about, clutch her throat, and expectorate.

Her head, ears, nose, throat, lungs, heart, and abdomen revealed no abnormal physical signs. The neck was not stiff. Knee jerks were not elicited even when reenforced. The Babinski reflex was difficult to obtain because she held her toes hyperextended for the most part, but in moments of relaxation, no hyperextension of the toes was obtained on plantar stroking of either foot. No ankle clonus was elicited. The Kernig test was bilaterally negative. There were no clonic or tonic muscular movements except for the sudden ballismic-athetoid movements of the entire body.

She resisted examination of the left arm and complained of pain when that extremity was touched. There was a two-inch well-healed scar on the volar surface of the left forearm just above the wrist but there was no redness, swelling, or other sign of infection.

Temperature on admission was 104.4 F. rectally, pulse 128, and respirations 24. The white blood count was 20,600.

Her condition remained approximately the same for the first six hours after admission except that the periods of excitement became much more frequent and the rectal temperature rose to 106.4 F. On one occasion while several observers in the room were discussing her manner of drinking water, the patient reached out and emptied onto the floor the glass of water which was on her bedside table, so she would not be required to drink it.

About six and one-half hours after admission, she was given 7½ grains of sodium amytal intravenously. This quieted her for only ten minutes but it allowed a lumbar puncture to be done. The fluid was clear with an initial pressure of 150 mm. of water, a left jugular response of 225 mm. of water, and a right jugular response of 210 mm. of water. Ten cubic centimeters of fluid were removed of which the cell count was 10 lymphocytes, sugar 112 mg. per hundred cubic centimeters, Pandy 0, and chlorides 750 mg. per hundred cubic centimeters.

The patient was given morphine sulphate grains 1/12 sc. at midnight and this had to be repeated at 12:50 A. M. in order to keep her at all quiet. She was given a subcutaneous injection of 500 cc. of 1 per cent sulfanilamide in sodium lactate solution but her strength was so great that she had to be restrained by three attendants during this treatment in spite of the sedation. The sulfanilamide was given merely to observe its effects, if any, in a case of rabies and in this case it was of no benefit.

Morphine grains 1/12 was repeated at 3:15 A.M. and about 4 A. M. the patient began to quiet down but by then her temperature had risen to 107 F., rectally, although the skin remained cool, as it had been during the whole evening. During the next hour the patient became comatose and developed an opisthotonos. She died at 5 A. M. on October 12, about twelve hours after admission to the hospital.

Postmortem examination confirmed the diagnosis of rabies and showed typical lesions in the brain including the demonstration of Negri bodies. Two guinea pigs died after intracisternal injection of a glycerine preparation of the patient's brain and they too, showed lesions typical of rabies.

Case 2. F. W., a husky thirty-four-year-old truck driver apparently in excellent health, while treating his sick dog on March 6, 1940, received a tear of the skin of the first two fingers of the right hand from the canine teeth. On March 9, the dog, while under a veterinarian's care, died after convulsions. Examination of the brain was reported by the Health Department to be suspicious for rabies and prophylactic vaccine treatment was recommended.

The patient, along with five others, received his first injection on March 12. The others included his wife and child and three people living downstairs in the same house. The group inoculated included four adults ranging in age from 25 to 35 years, and two children, a boy of 7 and a girl of 10 years. It is noteworthy that the individuals received injections in no particular rotation, so that no one person received all his vaccine from the same box or batch of vaccine.

No symptoms or complaints, except for some malaise, were exhibited by the patient until March 23, when the malaise became quite marked with loss of appetite, a temperature of 102 F., and some numbness of the fingers of both hands. It was on this date he received his twelfth inoculation. These symptoms were intensified the next morning and also there was drowsiness, nausea, vomiting which was more or less projectile in character, increasing coma, and inability to void. Hospitalization was arranged but the family decided against it when the patient seemed brighter in the afternoon. He had stopped vomiting and begun to retain fluids. Later in the evening, the coma became deeper, respirations changed in character, and he was admitted to the hospital at 10 P. M.

Examination revealed a well developed and well nourished muscular young adult who was somewhat dehydrated. He was comatose, with Cheyne-Stokes' respiration, temperature of 103.8 F., and pulse 120. He could be roused by repeated loud orders or violent shaking and would partially open his eyes and attempt to cooperate, but would promptly lapse into his former state. On questioning, he said he had no complaints of any kind and that he felt perfectly well.

There was no stiff neck and no Kernig. There was no demonstrable paralysis and the muscle tone was apparently normal. The tendon reflexes were all present, active and equal on both sides. The blood pressure was 138/70 and the rest of the physical examination was negative except for the dehydration and a markedly distended urinary bladder.

Lumbar puncture was done with no response to the needle prick or the manipulation into position. The spinal fluid was not under pressure. It was grossly clear and showed a cell count of 74, all lymphocytes. It showed no growth on culture, no tubercle bacilli, a plus-minus Pandy, sugar 96 mg. per hundred cubic centimenters, and chlorides 710 mg. per hundred cubic centimeters. Red blood count was 5,150,000, hemoglobin 90 per cent, and the white blood count 10,400. Catheterized urine was negative and the blood chemistry was normal.

The patient was distinctly worse the next morning, being in deep coma with Cheyne-Stokes' respiration. There was a mild stiff neck and a mild bilateral Kernig. His pupils were very small and their reaction to light was doubtful. The right eye looked downward when lids, which were held closed, were separated. The right lower face appeared weak. There was tone in the right arm but the left arm appeared to have none. The tendon reflexes were present, moderately active and equal on the two sides. There was no Babinski and no ankle clonus.

His condition steadily declined, his temperature gradually rose until it reached 108.4 F. rectally, and the patient died at 3:25 P. M. March 26, twenty days after the suspected exposure and three days after having received his twelfth injection of antirabic vaccine. Postmortem examination revealed only an acute encephalitis without any lesions suggestive of rabies.

Prophalactic Treatment

The accidents occurring during antirabic vaccination have been widely studied. In general, there is no inconvenience from vaccination. The local reactions which appear regularly on the seventh and eighth days and on the fifteenth and sixteenth days are not severe and the patient can go about his business. Occasionally a patient will have a reaction every day and rarely will he have no reaction at all. The reaction consists of an edematous area about the site of injection with erythema, itching, pain, and tenderness. Sometimes there is slight general reaction in the form of malaise and fever.

The more severe reactions, consisting usually of some form of paralysis, are rare. Simon[2] found 100 cases of paralysis among 217,774 persons treated,

with 81 recoveries. This is a percentage of 0.048. Another author, Mejia of Buenos Aires[2] found 24 cases out of 19,800, of which 20 recovered.

The paralysis usually develops between the eleventh and the twentieth day after the beginning of antirabic treatment. In most of these cases of paralysis, the picture is much the same. It begins with a loss of appetite, mild fever, considerable stiffness of the back and weakness of the legs. The weakness in the legs increases to a complete paralysis and ascends, involving the sphincters of the bladder and rectum. It may continue upward and involve the upper extremities and bulbar region with death from paralysis of the respiratory muscles, heart, or muscles of swallowing. The condition usually lasts for two or three weeks, with partial or complete recovery in 80 per cent of the cases.

The cause of this reaction to the vaccine has never been satisfactorily explained. It has been noted, however, to be extremely rare in children and more commonly affects luetics, alcoholics, and persons under nervous strain.

The development of rabies during the course of treatment might be considered as an accident associated with vaccination although it must be understood that prophylaxis is not always effective. The mortality percentage of those vaccinated after exposure is about 0.30 and 0.38 if vaccination is delayed more than fourteen days. The percentage is always higher in deep bites and those on the bare skin. Head wounds have a mortality after vaccination of 2.2 per cent, arm wounds 0.26 per cent, bites on the trunk 0.11 per cent, and those on the leg 0.18 per cent[3].

Several articles have appeared during the past few years which would tend to increase the terror and anxiety already well established. Leach and Johnson[4] in 1940 reported six fatal cases of human rabies, four of which had received early Pasteur treatment. They also mentioned that of the 104 deaths from rabies in Alabama and Georgia in the past eighteen years, 48, or 46.2 per cent, received Pasteur treatment.

Blatt, Hoffman, and Schneider[5] in 1938 reported on the twelve deaths from rabies which occurred in the Cook County Hospital in Chicago in the previous eight years. Of these, two received twenty-one injections of antirabic vaccine, starting one week after the exposure bite, and a third received fourteen injections starting one month after the bite.

Denison and Dowling[6] reported some very interesting data in 1939 which tend to add more confusion to the whole picture. They stated that the incidence of rabies among animals in Birmingham, Alabama, had steadily risen during the ten-year period from 1929 to 1939, finding 1,495 positive animal heads in the 3,111 examined. They estimated that the actual number of animal cases would be far greater if stray and unidentified dogs were examined and also if the Negro population, which constitutes 40 per cent of the total, cooperated in submitting suspected animals. Their figures showed that the colored population, which owned more than one-third of the total dog population, submitted less than one-seventh of the suspected animals. Also, only 64 colored persons received vaccine out of a total of 640 in the year 1938. It is concluded that in their experience, rabies is primarily a veterinary problem and that if it were as easily contracted by man as is commonly supposed, it would in Alabama become one of the leading causes of death instead of a very rare disease. The Birmingham procedure recommends prophylactic treatment for only those quite definitely exposed.

It is quite generally agreed that some modification of the Pasteur treatment, together with cauterization of wound with fuming nitric acid, offers the maximum protection against rabies. In attempting to formulate some set of rules or regulations applicable to the management of these cases, it becomes quite obvious that judgment and difference of opinion make this quite impossible. In one locality in Ohio, antirabic vaccine was given to all children who had had any possible contact with a rabid dog, none of whom had been bitten or scratched[7]. In contrast is the procedure in Birmingham, Alabama[6] where treatment is not advised following contamination of old cuts, sores, abrasions, scratches, or hangnails with saliva of rabid animals. Treatment is not advised for "pinches" in which the skin is definitely broken but the clothing neither torn or penetrated, or handling, sleeping with, kissing, or other exposure to rabid animals. These are a few of the procedures where vaccine is not given and in a locality where the incidence of rabies in dogs is relatively high, they seem to be rather extreme as compared with the recommendations of other authors.

Kelser[8] states that when a diagnosis of rabies is made, the necessity for prophylactic treatment of definitely exposed persons is immediately manda-

tory, and the sooner the administration of vaccine is started, the better.

The following outline is offered, then, not as any generally accepted procedure but as a consensus of several, and is approved by the Superintendent of Health of Providence.

Local Treatment

1. Adequate cleansing of wound.
2. Cauterization with fuming nitric acid.
3. Report to the Police Department and the local Health Department to insure impounding and observing of the suspected dog for rabies.

Care of the Dog

1. The dog should be tied up and observed by a trained dog officer for fourteen days. If still alive, it may be considered not rabid.
2. Observation of suspected dog: character change, gait and voice change are suggestive of rabies.
3. If the dog dies or is killed, the brain must be examined. Extreme caution is necessary to avoid injury or crushing of the brain. The head should be promptly removed, packed in ice, and sent to the laboratory as soon as possible. If the brain is removed, it can be sent in 33 per cent glycerine solution in water.
4. Stomach of the dog should be examined. Stomachs of rabid animals usually contain quantities of sticks, stones, leather, metal, and other indigestible articles.

Indications for Antirabic Vaccination

Vaccination should be carried out if:

1. The dog develops rabies.
2. The person is not bitten, but is in contact with saliva of a rabid dog and has evidence of recent injury or break in the skin.
3. The person is scratched by a rabid or suspicious dog.
4. The dog dies or is killed in less than fourteen days after bite.
5. The dog dies under suspicious circumstances.
6. The dog is unknown or disappears after bite.

Vaccination is not necessary if:

1. The dog remains well at the end of fourteen-day observation.
2. The person bitten, scratched, or in contact with saliva of dog known to be vicious or playful, and no rabies has been in existence in the region for six months.
3. The person, although in contact with saliva, has no evident break in the continuity of the skin.
4. Only to play safe or for psychic effect.

Where a definite re-exposure follows a series of rabies vaccine injections, three or four more doses of vaccine should be given to bolster the immunity. If a second exposure is severe and follows six months or more after the completion of treatment, repetition of the regular course of vaccine injections is indicated.

It should be remembered that deep puncture wounds, especially when multiple and badly lacerated, carry the greatest danger. Most dangerous also are the wounds of the face, head, neck, and hands, while wounds of other parts of the body covered with clothing are much less serious. Indirect contact with rabid animals, contaminated food, and milk and meat from a rabid cow, can be disregarded.

Technique of Vaccination

Fourteen daily injections of a phenolized vaccine prepared according to the method of Semple is the ordinary procedure.

Twenty-one daily injections are given if the bite occurred about the face or neck.

The vaccine is given deep subcutaneously, usually in the abdominal wall.

Conclusions

1. Rabies is a disease common to dogs, but transmitted to man only on infrequent occasions.

2. Once the symptoms of rabies have begun to develop in humans, there is as yet no known treatment that is effective. Therefore prophylactic measures are at present the only means of combating rabies.

3. The prophylactic treatment is in itself not entirely without danger and should be given when indicated but not indiscriminately.

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RHODE ISLAND MEDICAL SOCIETY

Annual Meeting, 1941

The one hundred and thirtieth annual meeting of the Rhode Island Medical Society was held in Newport on May 28th and 29th, 1941. The headquarters were established at the Viking Hotel.

On the morning of May 28th, the staff of the Newport Hospital provided a clinical program at the Hospital. The Society was welcomed by Dr. Douglas P. A. Jacoby, the President of the Hospital. Cases were discussed by Drs. Philip Geller, Louis E. Burns, Eske Windsberg, and Clifton B. Leech. A luncheon was served by the Newport Hospital.

The afternoon session was held at the Viking Hotel. The meeting was called to order at 2:30 P. M. by the President, Dr. Kingman.

The following delegates from other state societies were welcomed: Dr. Marcus A. Torrey of Ellsworth, Maine, Dr. Morton J. Robbins of Nashua, New Hampshire, and Dr. E. R. Clark of Castleton, Vermont.

Dr. Wilfred Pickles presented the report of the Fiske Fund. The premium for 1941 was awarded to Dr. Adolph W. Eckstein of Providence for his essay on "The Surgical Treatment of Peptic Ulcer."

Dr. B. Earl Clarke of Providence read a paper entitled "Intercapillary Glomerular Sclerosis or Diabetes-nephrosis Syndrome."

Dr. Bertram H. Buxton and Dr. Charles Potter of Providence presented a paper read by Dr. Potter entitled "X-ray Localization of the Placenta and the Clinical Application" which was discussed by Dr. Walter S. Jones and Dr. Samuel Adelson.

Dr. William P. Murphy of Boston read a paper, "The Management of the Patient with Chronic Leukemia", which was discussed by Drs. Alex M. Burgess, Philip Batchelder, Herman A. Lawson and Peter P. Chase.

Four biographical sketches were read. "Dr. William Hunter" by Dr. Roland Hammond, "Dr. Benjamin Waterhouse" by Dr. Herbert G. Partridge, "Bishop Berkeley's Sojourn in Newport" by Dr. John E. Donley, "Dr. Henry Turner of Newport" by Dr. Wilfred Pickles.

The evening session was held at the Viking Hotel at 8 o'clock. Dr. Kingman introduced Dr. Frank H. Lahey of Boston, President-elect of the American Medical Association, who addressed the Society on "Developments in Medicine and Surgery."

On the second day of the meeting, Thursday, May 29th, the Society was entertained in the morning by the Newport Naval Hospital. Exhibits of aviation, submarine and industrial methods and equipment were demonstrated by the medical officers of the Naval Hospital, the Naval Torpedo Station, Quonset Point and the New London Submarine Base. A clinic in surgery was held in the operating room. At lunch, the members were guests of the officers of the Naval Hospital.

The afternoon session at the Viking Hotel was called to order by the President.

Professor Charles Stuart spoke on "Paracolon Bacteria and Their Possible Etiologic Significance in Gastro-intestinal Disturbances."

Dr. Leland S. McKittrick of Boston discussed "The Diagnosis and Treatment of Cancer of the Right Colon."

Dr. W. O. Thompson presented a paper on "Sex Hormones: Clinical Application."

Dr. Lucius C. Kingman gave the address of the President, entitled "A Generation of Surgery."

Dr. Kingman then introduced Dr. Frederic V. Hussey as President. The session adjourned at 5:30 P. M.

In the evening a dinner was held at which Dr. Samuel Adelson, as Anniversary Chairman, presided.

Dr. Charles S. Dotterer, as Chairman of the golf committee, presented prizes for the golf tournament held during the afternoon.

The address of the evening was made by the Hon. Mortimer A. Sullivan, Associate Justice of the R. I. Superior Court. A rising vote of thanks was given Judge Sullivan and the meeting was adjourned.

Respectfully submitted,
WILLIAM P. BUFFUM, M.D.,
Secretary

Report of the Delegate to the American Medical Association, Meeting of 1941

As your delegate was an inexperienced alternate he will give you a brief report.

The attendance at the meeting was very large, 7,269 physicians were registered. All the hotels were full, a large steamship was used as a hotel and still there were some who could find no accommodations.

The scientific exhibits seemed to be the most notable part of the scientific program. The A. M. A. Journal called this "The greatest concentrated postgraduate education in medicine available anywhere in this or any other country" and I heartily agree with this. In pediatrics, the exhibits on control of air-borne infections in hospitals and schools were especially noteworthy.

The scientific papers were given in so many different sections that it is impossible for any one person to evaluate them. The sections and the special societies meeting during the same week gave a very wide choice of first class meetings.

In the House of Delegates the emphasis was on a few important subjects.

The House recommended that some central assignment authority be developed to distribute physicians where most needed, to place physicians where their special skills can be utilized, to avoid leaving communities uncared for and to leave uninterrupted as far as possible the education of medical students and internes.

The situation in regard to the certifying boards in the specialties was freely discussed. It seems evident that we should call a halt in making rigid rules requiring certification for physicians filling certain positions. Although the certifying boards are performing a very useful function we must not be in a hurry to give them complete authority to decide who is capable and who is not.

The House of Delegates was unanimous in deciding to carry on the trial of the case of the U. S. Government vs. the A. M. A. et al.

Many physicians prefer to attend small meetings of special societies. I do believe, however, that the A. M. A. meetings offer more in professional education than any of the smaller societies.

Respectfully submitted,

Wm. P. Buffum, M.D.,

Alternate Delegate

PROVIDENCE MEDICAL ASSOCIATION

June Meeting

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, June 2, 1941. The meeting was called to order by the President at 8:30 P. M. The Secretary read the records of the previous meeting which were approved.

The Secretary reported a communication from the United States Service Organization for National Defense calling attention to the Rhode Island campaign to raise funds to meet the recreational and welfare needs of soldiers and sailors.

The President announced that Dr. William H. Foley, Chairman of the Committee on Legislation, had filed a complete report for that committee which had been published in the June issue of the *Providence Medical News*.

The Secretary reported that the Executive Committee recommended for election as active members in the Association Dr. Nathaniel J. Malinou and Dr. George E. Kirk. A motion from the floor calling for the election of these men was seconded and unanimously passed.

The President announced the appointment of Dr. U. E. Zambarano as Chairman of the Committee on Tuberculosis to replace Dr. John I. Pinckney, who was unable to accept the appointment.

The President announced that Dr. John G. Walsh would be chairman of the Association's Committee for the annual Community Fund Campaign to be conducted early in October, and it was requested that the members of the Association who are asked to serve on this committee cooperate fully in this important community work.

The President introduced Dr. Michael Di Maio, who presented a case report on "Addison's Disease" which had been selected by the Committee conducting the Association's prize contest for interns and house officers.

Dr. Di Maio presented a typical case which had been completely and carefully studied and which illustrated clearly the dramatic response to desoxycorticosterone acetate. It also illustrated the effects of temporary overdosage, consisting primarily of edema with basal rales, increase in the heart size, and rapid gain in weight. The patient was presented at the meeting. He is well eleven months after the subcutaneous implantation of pellets of the drug.

The second paper of the evening "Typhoid Fever—Report of an Outbreak in a Mental Hospital," was presented by Dr. Louis Goodman. This paper was the summation of a two-year clinical and pathological study at the Rhode Island State Hospital for Mental Diseases made by Louis Goodman, M.D., Pathologist, Catherine Zouraboff, M.D., Senior Physician, James H. Fagan, M.D., Visiting

Surgeon, and Miss Annettee Rivard, M.A., Medical Technician.

A complete study of all aspects of the outbreak was presented. In their experience, all permanent carriers had positive cultures of typhoid bacilli from the bile. Soluble iodophthalein definitely reduced the number of positive cultures in the carriers but sulfonamide drugs were of no value. As a last resort, nine cholecystectomies were performed, and those who survived were cured. It was suggested that the carrier state may be more common in older patients because of the presence of gall bladder disease and gall stones. The paper was discussed by Drs. Fitzpatrick and Grover.

The third scientific paper, on the topic "Comparative End Results of Transurethral and Surgical Prostatectomies," was presented by Dr. Eric P. Stone.

One hundred resections by the transurethral method and one hundred prostatectomies by the perineal or suprapubic routes were compared. It was concluded that the method of choice depends on the conditions presented by each patient and that often an open operation presented less hazard and better promise of cure than did transurethral resection.

The meeting adjourned at 10:30 P. M.

Collation was served. Attendance, 65.

Respectfully submitted,

FRANK B. CUTTS, M.D., *Secretary*

AMERICAN MEDICAL ASSOCIATION

DIRECTORY INFORMATION

About September 1, an information card will be sent from the headquarters office of the American Medical Association to every physician in the United States and Canada. The information secured is to be used in compiling the Seventeenth Edition of the *American Medical Directory*.

The directory is prepared at regular intervals in the Biographical Department of the American Medical Association. The last previous edition appeared in 1940. This volume is one of the most important contributions of the American Medical Association to the work of the medical profession in the United States; it has been especially valuable in the medical preparedness program. In it, as in no other published directory, are dependable data concerning physicians, hospitals, medical organizations and activities. The directory provides full information concerning medical colleges, specialization in the field of medical practice, memberships in special medical societies, tabulations of medical journals and medical libraries and, indeed, practically every important fact concerning the medical profession in which any one might possibly be interested.

Before filling out the information card, read the instructions carefully. Physicians are especially urged to state whether or not they are on extended active duty for the medical reserve corps of the United States Army and Navy. Fill out the card and return it promptly whether or not a change has occurred in any points on which information is requested. If a change of address occurs before March 1, 1942, report it at once. Should you fail to receive a card before the first of October, write at once to the headquarters office stating that fact and a duplicate card will be mailed.

EXAMINATIONS FOR MEDICAL POSITIONS ANNOUNCED BY CIVIL SERVICE COMMISSION

Examinations for three types of medical positions in the Government service have just been announced by the Civil Service Commission. This is another indication of the great demand for technically trained personnel of every kind in the defense program. Each of these positions has been open to competition within the past year, but the demand grows even faster than the supply.

Junior medical officer positions at $2,000 a year will be filled at St. Elizabeth's Hospital in Washington, D. C. There are two types of interneship: Rotating and Psychiatric Resident. The rotating interneship consists of four months of surgery, acute medical service, and of chronic medical service; two months of obstetrics and of pediatrics, on affiliation; three months of general laboratory work; and six months of psychiatry. To qualify, applicants must be fourth-year students in a Class A medical school. Applicants must show completion of the course prior to June 30, 1942, before they may enter on duty. Graduates in medicine who have already served an accredited rotating interneship are offered a postgraduate interneship of one year of psychiatry (American Medical Association Classification 2, Type B). To qualify for this type

of appointment, applicants must have completed their fourth year of study in a Class A Medical school subsequent to December 1935 and must have either a B.M. or M.D. degree. Applications will be accepted at the Commission's Washington office until NOVEMBER 15, 1941, and will be rated as soon as practicable after receipt.

Medical technical assistant positions at $2,000 a year and medical guard-attendant positions at $1,620 a year will be filled in the Mental Hygiene Division of the U. S. Public Health Service. Applicants must be registered graduate nurses, or have been honorably discharged (within the 10 years immediately preceding date of receipt of application) from active service in the Medical Corps of the Army or Navy, or have had three years' service as guard-attendant in a Federal penal or correctional institution. In addition, for the technical assistant, applicants must show that their experience has included one year of responsible training or experience in Clinical Laboratory Technique, Pharmacy, or X-ray Laboratory Technique. Applications will be accepted *until further notice*. Persons who were rated eligible for these two positions in the examination which closed in February of this year need not apply for this new examination as eligibles from both examinations will be combined on the new register.

Further information and application forms may be obtained at any first- or second-class post office or from the Civil Service Commission in Washington. Qualified persons are urged to file their applications at once.

PHYSICIANS CASUALTY ASSOCIATION REDUCES RATES

"The Physicians Casualty Association of America has made a reduction in the $25.00 per week accident and health insurance, of $1.00 per year; in the $50.00 per week accident and health insurance, of $2.00 per year and in the $75.00 per week accident and health insurance, of $3.00 per year."

RECENT BOOKS

CANNED FOOD REFERENCE MANUAL

Recognition by the Quartermaster General in Washington was recently given to the "Canned Food Reference Manual." The American Can Company was authorized to send copies of the manual to the Commanding General and the Quartermaster at each Corps Area Headquarters; one to the Medical Officer and the Quartermaster at each of the Posts, Camps and Stations of the Army; and one to the Commanding Officer at the various Purchasing Depots of the Army throughout the country.

Before going to work for national defense, this manual was distributed to some 115,717 professional people, such as doctors, public health officials and others in positions to supply the real facts on canned foods as well as to aid in dispelling the old suspicions. It should prove equally valuable in the Army where variety, nutritive values, costs and time-saving are important considerations. Canco's Research Department assembled the material and the text is approved by the Council of Foods of the American Medical Association.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY: A complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut.-Colonel, M.R.C., U. S. Army; Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; Editor of the "American Pocket Medical Dictionary". With the Collaboration of E. C. L. Miller, M.D., Medical College of Virginia. Nineteenth Edition, Revised and Enlarged. pp. 1647 with 914 illustrations, 100 in colors, 269 portraits, 100 elaborate tables. Choice of Flexible or Stiff Binding. Plain, $7.00, Thumb-indexed, $7.50. W. B. Saunders Company, West Washington Square, Philadelphia, 1941.

Dorland's American Illustrated Medical Dictionary has been a standard work of reference for more than forty years. For the nineteenth edition the work has been thoroughly revised and more than 2000 new words added. The type is clear. The book is substantially bound to withstand the constant use which it merits. The number of new medical words indicates the steady advance in medical science. Descriptive words prevent circumlocution and thus tend to simplify rather than to render medical literature more complicated. It is fortunate that the popularity of this work makes frequent revision possible. The nineteenth edition is indispensable for an up-to-date medical library.

A PRIMER FOR DIABETIC PATIENTS. By Russell M. Wilder, M.D., Ph.D., F.A.C.P. Seventh Edition, Reset. pp. 184, with 8 illustrations, a color plate, and tables. Cloth, $1.75, W. B. Saunders Company, Philadelphia, 1941.

Dr. Wilder's "Primer for Diabetic Patients" is a physicians aid in the treatment of his diabetic patients. It has gone through seven editions in the last twenty years. The primer, designed for the instruction of diabetics, treats of the tests for sugar in urine, of the administration of insulin, and of proper diabetic diets. Complications of diabetes are treated to the extent of warning patients how to avoid them. The book is clear, non-technical, and authoritative.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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SURGICAL GAUZE

As a contribution to the national defense program, the National Bureau of Standards, Department of Commerce, today announced a further revision of the existing simplified practice recommendation limiting the width and length of surgical gauze and related articles.

As originally drafted by a general conference of the industry and promulgated in 1928, the simplified practice recommendation listed 38 stock varieties and eliminated about 32 items for which there was little demand. In 1937 it was revised to eliminate 9 additional items no longer in active demand.

The current revision accomplished a further reduction of 3 items—the 36-inch surgical gauze, 22 warp and 18 filling yarns per inch; the 38½-inch crinoline, 44 warp and 40 filling yarns per inch, and the 6-yard, 1½-inch bandage. Minor changes were made to clarify the recommendation and to provide packaging methods for surgical gauze bandages.

Printed copies of Simplified Practice Recommendation R86—41, Surgical Gauze, may be had from the Superintendent of Documents, Washington, D. C., at 5 cents per copy.

SULFADIAZINE

Sulfadiazine, newest member of the sulfonamide drug family, has been released by Sharp & Dohme for general use by physicians. The Medical-Research Laboratories of Sharp & Dohme were instrumental in the development of sulfadiazine, having done original research on the pyrimidine derivatives of sulfanilamide of which sulfadiazine is a member.

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Volume XXIV
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OCTOBER
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THE N.Y. ACADEMY OF MEDICINE
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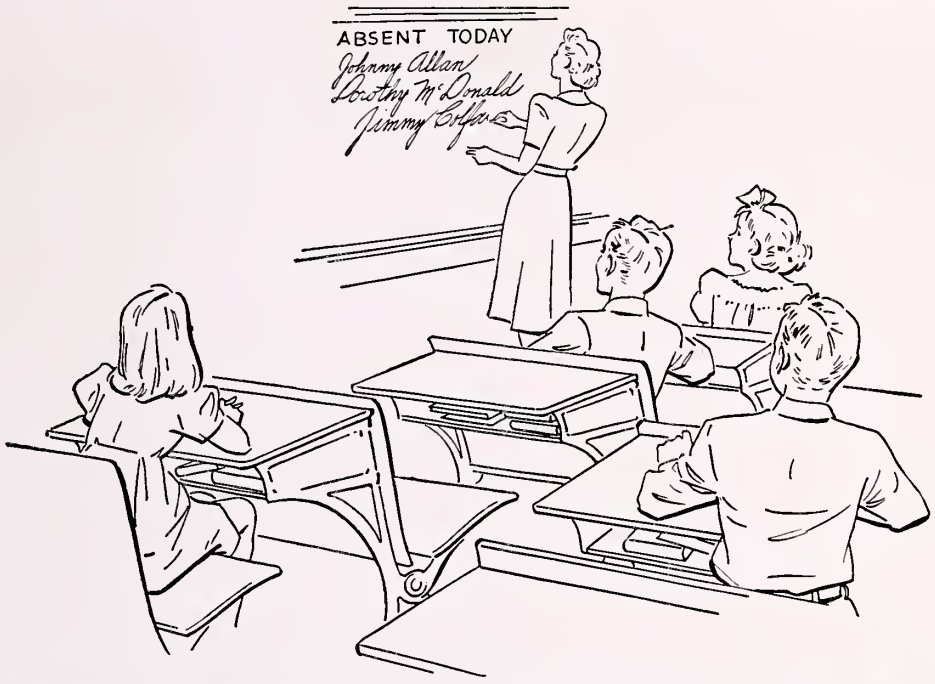

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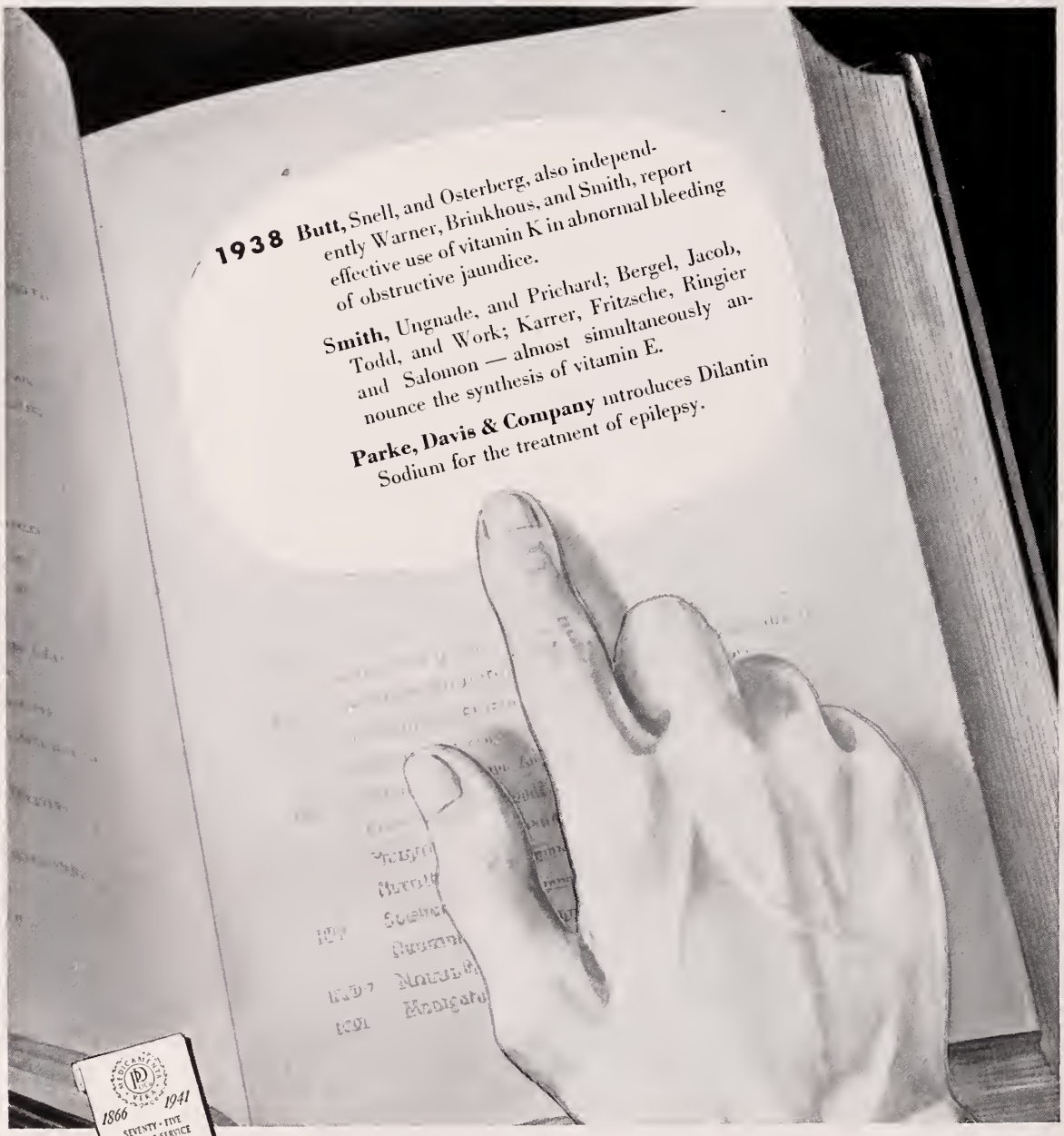
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THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV OCTOBER, 1941 Number 10

MEDITATIONES MEDICORUM

Wilfred Pickles, M.D.
184 Waterman Street, Providence, R. I.

All of us, I imagine, have at one time or another indulged in the interesting pastime of trying to determine the station in life, occupation, and even the character of people whom we see for a short time on the street, or in other public places. Our only source of information is their external appearance; their features, facial expression, clothing and, if we are lucky, their manner of walking and sometimes of talking. Yet with this scant and superficial knowledge, we conjure up a living human being who may, but most likely does not, have any resemblance to the individual on whom our glance has chanced to fall. In much the same way the titles of books, and in particular the titles of old books, exert an uncanny fascination on those of us who are at all susceptible to their charm. They, too, are external and sometimes superficial, but what pictures they bring to mind even at a first and very brief acquaintance. There is the short, challenging title, "Danger!"—to guess at the contents of that book is futile, so many possibilities crowd the mind. And then there is the encyclopedic title, leaving nothing to chance, as, "Travels through France and Italy. Containing Observations on Character, Customs, Religion, Government, Police, Commerce, Arts and Antiquities. With a particular Description of the Town, Territory and Climate of Nice: To which is added, A Register of the Weather, kept during a Residence of Eighteen Months in that City." — no room for guessing there; one wonders, indeed, if there can be anything left to go into the book. And again there is the unusual title, "The Anatomy of Melancholy" — here is a title to pique anyone's curiosity and to compel further study. And this brings us to the difference in the outcome of these two attempts to judge by appearances. Our guess as to the individual is usually valueless, for we cannot, or at least we do not, walk up to him and get him to confirm or disprove our ideas about him. But the book welcomes such inquiry, gives information willingly and apparently freely, and gladly tells us what its author had in mind in the choice of its title. And then, so insidiously at first that we are hardly aware of it, the book begins to exact payment for its seeming generosity: we find that we must learn something more about the author; something of his life, of other books he may have written, and of his professional work. The men who lived and labored with him demand attention and understanding, and his allusions to other men and to other books start us on a never ending trail of literary adventure where we pay well in time and money for our early curiosity. But the returns more than repay the cost, and so we keep on and on. In one of his essays Cushing has expressed this thought much better than I can hope to do— "Like the proverbial pebble cast into the pool with its ever-widening circles, just so one may start with a single book written by a single person from which the history of the world seems to radiate."

Of all fascinating titles, the most intriguing to us men of medicine are those old Latin titles with which our literature abounds; learned and dignified titles which sonorously announce the object and findings of the writer—"De Motu Musculorum", "De Fabrica Humani Corporis" and "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus" — here, indeed, are titles which outdo all others in stirring the pulse and exciting our liveliest interest. And even the shorter Latin titles are full of charm; they seem to have a peculiar immortality, for not only are they themselves apparently "too hard for the teeth of time", but they give rise, in the course of years, to offspring with similar names. An example of a literary succession of this sort is offered by Sir Thomas Browne's "Religio Medici", Stephen Paget's "Confessio Medici", and Harvey Cushing's "Consecratio Medici"; and a brief consideration of this titular family in the spirit of our earlier remarks is the excuse for this present talk.

Presented at a Meeting of the Providence Medical History Club, Hampton, Conn., June 1941.

SIR THOMAS BROWNE

Thomas Browne, son of a London merchant, was born on October 19, 1605, at about the time when Galileo was stating the law of falling bodies and just before his discovery of the telescope. The early death of Browne's father was followed by the marriage of his mother to Sir Thomas Dutton, whose ample means made it possible for his stepson to have the best education which the time afforded. Thomas, accordingly, spent his schooldays at Winchester and then matriculated at Broadgate Hall, Oxford, in 1623. During the next year the name Broadgate Hall was changed to Pembroke College in recognition of the generosity of the Earl of Pembroke. It is of particular interest to us in Rhode Island to realize that while Thomas Browne studied at Oxford Roger Williams was gaining his education in the college of the same name at Cambridge, our own Pembroke College deriving its name from this latter institution. Browne was a good student and was outstanding as an undergraduate, receiving his Bachelor of Arts in 1626 and his Master of Arts in 1629. Following this he toured the Continent for several years and he is said to have received the degree of Doctor of Medicine at Leyden in 1633; there is some doubt about this, however, for Osler, with his usual enthusiasm counting no trouble too great, was unable to find his name in a careful personal study of the register of that University. Browne returned to England the next year and settled at Shibden Dale, near Halifax; and it was here, while regaining his health and before definitely starting in practice, that he wrote the "Religio Medici". In 1637 he gained the degree of Doctor of Medicine at Oxford and at about this time he settled in Norwich, where he practiced for the next forty five years. In 1641 he married Dorothy Mileham, "a lady of such symmetrical proportions to her worthy husband that they seemed to come together by a kind of natural magnetism". As Osler says, in his inimitable prose — a prose which constantly invites quotation — "Dame Dorothy proved a good wife, a fruitful branch, bearing ten children." Two of these children were sons; the elder, Edward, followed his father's example in studying medicine and later became President of the Royal College of Physicians; the younger, Thomas, followed the sea and lost his life in the Dutch wars.

Browne continued his even life in Norwich, practicing as an honorable and honored physician. He was but little affected by the Civil War, educated his children well, made interesting collections of "medails, books, plants and natural things" including "eggs of foule", was elected an Honorary Fellow of the Royal College of Physicians in 1664, and was knighted by Charles the Second in 1671. The Rev. John Whitefoot describes him as follows — "He was never seen to be transported with mirth or dejected with sadness; always cheerful but rarely merry, at any sensible rate; seldom heard to break a jest, and when he did he would be apt to blush at the levity of it. His gravity was natural, without affectation." He died suddenly on his seventy seventh birthday, and this has been noted by almost all who have written about him as a curious fulfillment of a passage in his "Letter to a Friend" — "But in Persons who outlive many Years, and when there are no less than three hundred sixty five days to determine their Lives in every Year, — that the first day should make the last, that the Tail of the Snake should return into its mouth precisely at that time, and that they should wind up on the day of their Nativity, is indeed a remarkable Coincidence . . ."

The "Religio Medici" is an attempt to combine scientific skepticism with deep religious faith, and was written when the author was but thirty years old, for his "private exercise and satisfaction". In manuscript form it was passed around among

Frontispiece of the First (unauthorized) Edition of the Religio Medici.

his friends, and it is known that there were at least six copies of the manuscript. After seven years an unauthorized edition was published by Andrew Crooke and this proved to be so popular that it was followed by a second pirated edition within a few months. It was with one of these copies that Sir Kenelm Digby established his famous record for reading in bed. Digby, whose chief claim to fame aside from his connection with the "Religio" rests on a sympathetic powder for the healing of wounds, was confined by the Parliamentarians in Winchester House at the time of this publication. Hearing favorably of the book, he sent for a copy and was in bed when it arrived. Nothing daunted, however, he read it through and wrote his "Observations", in the form of a letter, that same night. It has been said, with some degree of truth, that he set out to write a letter and ended by writing a book, for his "Observations" are about three quarters as big as the "Religio". Browne was very much upset that an unauthorized and unacknowledged edition of his work should be made the subject of criticism, and wrote to Digby asking him to withhold comment until corrections had been made; and it is probable that this occurrence prompted the publication of the first authorized edition, by the same publisher, in 1643. The popularity of the work continued; it was translated into Latin and into German and was widely read on the Continent; in all, since its first appearance, about fifty five editions are known to have been published.

A considerable degree of confusion as to the beliefs and orthodoxy of the author seems to have existed among his fellows, although he himself stated that "there is no Church whose every part so squares unto my Conscience . . . as the Church of England"; for some claimed him as a Catholic at the same time that the Roman Church was placing his book upon the Index, and a member of the Society of Friends hailed him as a likely convert while others denounced him as an Atheist. This confusion seems to me quite understandable, for many of his passages can be read in more than one way; under the obvious meaning of a phrase there often lurks a significant and wholly delightful sarcasm which lends flavor and zest to his pious observations. Then too, the liberality of many of his beliefs is far in advance of his time and must have caused much anguish to those of a stricter and more regular habit of religious thought. But the chief attraction of the book to us of this present day is literary rather than theological, for as literature it holds a place high among the classics of our language. The breadth of Browne's knowledge, the brightness of his imagination, and the happiness of his quaint phraseology combine in making up a work of surpassing beauty. Let me give you a few examples from the book itself.

In discussing religious disputes he says, "I could never divide myself from any man upon the difference of an opinion, or be angry with his judgment for not agreeing with me in that from which perhaps within a few days I should dissent myself. . . . Where we desire to be informed, 'tis good to contest with men above ourselves: but to confirm and establish our opinions, 'tis best to argue with judgments below our own, that the frequent spoils and Victories over their reasons may settle in ourselves an esteem and confirmed Opinion of our own. . . . Every man is not a proper Champion for

Truth, nor fit to take up the Gauntlet in the cause of Verity. . . . A man may be in as just possession of Truth as of a City, and yet be forced to surrender; 'tis therefore far better to enjoy her with peace, than to hazzard her on a battle." What a wealth of careful observation, keen insight and deep philosophy is shown in those few sentences. These qualities run through the whole book, and are often combined with such originality of wording that direct quotation cannot be avoided, as in the following comment: "As for those wingy mysteries in Divinity, and airy subtleties in Religion, which have unhing'd the brains of better heads, they never stretched the *Pia Mater* of mine." Such a statement was probably looked upon as somewhat flippant by the more serious religious commentators of the time, and it is likely that some of the wonder as to his orthodoxy may have been aroused by a statement such as this: "Thus there are two books from whence I collect my Divinity; beside that written one of God, another of His servant Nature, that universal and publick Manuscript, that lies expansed unto the eyes of all: those that never saw Him in the one, have discovered Him in the other." And his ability to think clearly and then to express his thought pithily and without regard for established authority is often shown, as in this brief sentence: "There are many (questionless,) canonized on earth, that shall never be saints in Heaven."

"Of making many books there is no end." This thought seems to have been in men's minds since Biblical times, and we know that we have too many now, as witness the comment of such a careful observer as Garrison, the renowned medical historian: ". . . it is dubious whether the gigantic literature of general biology and medicine (a chaotic welter) will ultimately overreach itself, like an inundation, or tends already to . . . self sterilization and terminal petrifaction." It is somewhat surprising, however, to find Browne complaining about the excess of books almost three hundred years ago. I wish that I might repeat all that he has to say on this subject, but we must be content with a brief passage: "Of those three great inventions in Germany, (by which he refers to firearms, printing and the mariner's compass) there are two which are not without their incommodities, and 'tis disputable whether they exceed not their use and commodities. 'Tis not a melancholy *Utinam* of my own, but the desires of better heads, that there were a general Synod: not to unite the incompatible difference of Religion, but for the benefit of learning, to reduce it as it lay at first, in a few and solid Authors; and to condemn to the fire those swarms and millions of Rhapsodies, begotten only to distract and abuse the weaker judgments of Scholars, and to maintain the trade and mystery of the Typographers." He has a deep respect for scholars, as shown by this comment, a curious anticipation of an attack such as Digby's: "Scholars are men of Peace, they bear no arms, but their tongues are sharper than Actius his razor; their Pens carry farther, and give a louder report than Thunder: I had rather stand the shock of a Basilisco, than the fury of a merciless Pen."

And then there are three sentences, illustrating the modesty, courage and deep human kindness of this medical philosopher, with which I must close this rather arbitrary selection of interesting passages; "And though I think no man can live well once, but he that could live twice, yet for my own part I would not live over my hours past, or begin again the thread of my days: not upon Cicero's ground, because I have lived them well, but for fear I should live them worse. . . . It is a brave act of valour to contemn death; but where life is more terrible than death, it is then the truest valour to dare to live. . . . He is rich who has enough to be charitable; and it is hard to be so poor, that a noble mind may not find a way to this piece of goodness."

I have described my selection of quotations as arbitrary; this must needs be the case when a book so teems with quotable passages as this one does. I hope, however, that the choice has been fortunate enough to convey, even in a small degree, the spirit and attractiveness of the original, and to make understandable the devotion of men such as Pater, Lamb and Coleridge. No one in recent years has done so much to spread the acquaintance and appreciation of this book as Osler, to whom it was truly *comes viae vitaeque;* its influence is shown not only in numerous quotations in his writings, but in his very life; and a well-thumbed copy of the "Religio" found an honored place on the velvet pall of Osler's bier as he lay in state in the Lady Chapel in Oxford.

The ever-widening circles of interest set up by our consideration of the "Religio Medici" might well lead us to read and study Browne's other writings: his "Pseudodoxia Epidemica", an elaborate collection of the common errors of his time viewed in the light of the then-existing science; his "Hydriotaphia—Urne Burial", a somewhat melancholy meditation on the last rites of many nations through the ages; and his "Letter to a Friend on

the Occasion of the Death of his Intimate Friend", a commentary on the slow approach of death in consumption. But we must be content simply to note another curious illustration of his writings in his own person. In August, 1840, workmen repairing the chancel of St. Peter's Mancroft accidentally broke open a coffin which proved to be that of Sir Thomas Browne. After a careful examination of the remains by an archaeologist, the skull was removed by one of the workmen and later found a resting place in the museum of the Norfolk and Norwich Infirmary. Here it was exhibited,* together with these lines from the "Hydriotaphia"—"To be knaved out of our graves, to have our skulls made drinking bowls, and our bones turned into pipes, to delight and sport our enemies, are tragical abominations escaped in burning burials." Or we might easily be led into a study of the many famous medical men who lived and worked at this same time, for it was an age of great names and great achievements. William Harvey was stating his conception of the circulation of the blood; while Thomas Willis was increasing our knowledge of gross anatomy, Kircher, Swammerdam, Leuwenhoek and Malpighi were opening up entirely new fields by means of the microscope; and Sydenham was following the Hippocratic example in making careful first-hand accounts of many of our common diseases. Interesting as such an excursion would prove, however, we must resist its lure and turn now to the second member of this literary succession, the "Confessio Medici" of Stephen Paget.

The possession of two respectable parents is a heritage common to most of us, and might even be considered essential in the maintenance of a place on any well-regulated family tree. The usages of literary succession are not nearly so strict: most books find an honored place in the community and are admitted to the best circles of society when it is well known that they have but one parent; and many a book has gained everlasting respect and affection in spite of the fact that its parentage has never been publicly acknowledged. Here, however, we have a book whose lineage on both sides is admitted in the preface, for Paget tells us, almost in his first sentence, that he has stolen his title from Sir Thomas Browne's "Religio Medici" and from Gower's "Confessio Amantis".

The information thus far available to me concerning Stephen Paget is somewhat meagre. He was the fourth son of Sir James Paget, and was

STEPHEN PAGET

Reproduced from the Research Defence Society's "Fight Against Disease".

born in 1855. After preliminary education at Shrewsbury, he matriculated at Christ Church, Oxford, where he obtained his degree of Master of Arts. He continued at Oxford for the first part of his medical education, and then worked and studied at St. Bartholomew's Hospital, the institution with which his illustrious father had been connected from the beginning of his career. At the age of thirty, he married Eleanor Mary Burd, the daughter of a Shrewsbury physician, and had two daughters. He was a Fellow of the Royal College of Surgeons. Early in his professional career he was apparently a general surgeon with particular interest in surgery of the chest; later he seems to have confined himself to aural surgery. Throughout his life he was a stout champion of animal experimentation, a field of study which has been subjected to even more bitter and bigoted opposition in his country than it has in ours; and for a time he served as Honorary Secretary of the Research Defence Society. He was a versatile and prolific man of letters, appearing in many roles: gifted translator, careful historian, interesting biographer, spirited controversialist and graceful essayist. He died on May 8, 1926.

Although Stephen Paget found outlet for his energies in so many and so varied fields of literary work, his whimsical humor and happy facility in

* And may still be, if it has not been destroyed by one of those "three great inventions in Germany".

handling words find their best mode of expression in the essay; and I imagine that he will be remembered longest for some of his examples of this form of writing. The "Confessio Medici" is a collection of essays on medical subjects, and the author goes to considerable pains to define what he means by the term "Confessio". Says he, "Not all confession is of sins; and a man may confess his faith, his ignorance, or his love. Use the word as we will, it means no more than this, that he goes outside of himself for answer, assurance, audience. . . . For here is no confession of sins and errors, no disclosure of secrets, no mention of names, no memory of offence, no airs of penitence. I only want to confess what I have learned, so far as I have come, from my life, so far as it has gone." The essays in the volume follow a logical order, beginning with the call to medical work, continuing through hospital life and practice to retirement and the end. Here again, I can best give you an idea of the underlying philosophy and the grace of its expression by a few quotations, picked at random from the book.

The first essay deals with "Vocation", that call to medical study which all of us must have had in one form or another before taking this up as our life work, and we soon become aware of the quiet humor which runs through the whole book. The word "vocation" calls to mind its Latin origin and he says, "When I meet a long Latin word, in a line of quiet English, elbowing its neighbors right and left, like a motor omnibus raging down a country lane, I stop it and ask to see its root. That is the way to take the conceit out of all such words." And then he goes on to discuss the profession of Medicine and its appeal to young men at loose end looking for a decent and useful niche in life, defining practice as "science touched with emotion." The concluding sentences give the spirit of the whole essay — indeed, they inspired Cushing, as we shall see later, to write the book bearing the third of our related titles — "Every year, young men enter the medical profession who are neither born doctors, nor have any great love of science, nor are helped by name or influence. Without a welcome, without money, without prospects, they fight their way into practice; and in practice, they find it hard work, ill-thanked, ill-paid: there are times when they say, *What call had I to be a doctor? I should have done better for myself and my wife and the children in some other calling.* But they stick to it, and that not only from necessity, but from pride, honour, conviction: and Heaven, sooner or later, lets them know what it thinks of them. The information comes quite as a surprise to them, being the first received, from any source, that they were indeed called to be doctors; and they hesitate to give the name of divine vocation to work paid by the job, and shamefully underpaid at that. Calls, they imagine, should master men, beating down on them: surely a diploma, obtained by hard examination and hard cash, and signed and sealed by earthly examiners, cannot be a summons from heaven. But it may be. For, if a doctor's life may not be a divine vocation, then no life is a vocation, and nothing is divine."

In the next essay, on "Hospital Life", Paget shows a pleasing consideration for the patient as a human being rather than as simply a medical problem. MacFie Campbell used to tell us that we must regard the patient not merely as an expression of colloid chemistry but as an individual with a personality, and Paget puts it this way, "He (the student) begins to see that he has more to learn than the use of a stethoscope: he must learn lives. Poor himself, he enjoys the exercise of hospitality, and his alms and kind acts are of singular felicity. He learns, with higher exactness, to trust and distrust himself, to be slow to find fault with other men and quick to help them: he becomes acquainted with heavy responsibility, with the full bitterness of a bad mistake, the full delight of pulling people out of death's way." All of us who have any contact with a busy hospital know that the constant tendency is for the individuality of the patient to be lost, for the scientific interest to displace the human relation between doctor and patient, and for this lack of human interest on the part of the doctor to be mirrored by many of the hospital attendants; in short, the trend is in the direction of making the hospital a more or less efficient machine. The reading of this essay might well be required of all members of the medical staff of a hospital; certainly the absorption and application of its spirit could not fail to benefit patient and doctor alike.

Many of these essays are concerned with Practice, with its spirit and its discipline, its wreaths and its crosses, but through them all runs this deep human feeling for the patient; and along with it, a refreshing humility growing out of a recognition of our limitations in treating disease. How clearly he states what each of us has often thought — "Our successful cases, we feel, might belong to anybody: but our unsuccessful cases belong to us." And here again we meet many of the qualities which

HARVEY CUSHING
Reproduced from a crayon portrait by Mr. Deane Keller, through the courtesy of the Harvey Cushing Society and by permission of Charles C. Thomas.

we liked in Thomas Browne, albeit phrased in a little different form and language. "Every man is not a proper Champion for Truth, nor fit to take up the Gauntlet in the cause of Verity" — so Browne put it; and in Paget we find, "Yet I advise the young doctor not to rush unarmed, not even to the defence of science and ethics." The form may vary, but the underlying love of the profession and of humanity is the same in the work of both men. A last quotation from Paget's "Spirit of Practice" gives the essence of his belief: "Pray to the Gods, also, for a fair measure of the love of science, a good memory, a quiet manner, the accurate use of your hands and your senses, and the necessity of making money. Pray even for opposites; for humility and pride, for plodding business-ways and for the wings of ambition, for a will both stubborn and flexible: and, above all, for that one gift which has been the making of the best men in our profession, the grace of simplicity of purpose."

Of Paget's other works we can speak only to pass on at once. His life of John Hunter, his translations and accounts of Ambroise Pare, his memoirs of his father, his attacks on cults and his defence of experimentation, his story of Pasteur, and his miscellaneous essays all make fascinating reading. But the limitations of time and space carry us swiftly past these inviting eddies, and bring us to the third member of this line, the "Consecratio Medici" of Harvey Cushing.

To the members of this Club, Harvey Cushing needs no introduction. Some of us have been his pupils; others have been his colleagues and personal friends; all of us have known him and his work. I shall, then, give only a very brief account of his life. He was born in Cleveland on April eighth, 1869, a descendant of the Williams family of Connecticut and of Erastus Cushing, a Massachusetts doctor who was one of the early settlers of the Western Reserve. For his education he retraced the path of his ancestors, returning to Connecticut for his undergraduate studies and receiving his Bachelor of Arts from Yale in 1891. Four years later he was made a Master of Arts and a Doctor of Medicine by Harvard. Following this he moved on to Baltimore, and was, in order, resident surgeon, member of the surgical staff, Assistant Professor and Associate Professor of Surgery at the Johns Hopkins Medical School. During this time he became well known for his work in experimental and clinical surgery, and finally confined his work to the development of the new field of neurological surgery. On June tenth, 1902, he married Katherine Crowell of Cleveland, and had three daughters and two sons. In 1911 he became Mosely Professor of Surgery at the Harvard Medical School and Surgeon in Chief to the Peter Bent Brigham Hospital.

In one of his delightful essays, Osler speaks of Creators, Transmuters and Transmitters, and to this classification Cushing, in his "Life of Osler" adds the Inspirers, "a group to fill as few benches as the Creators." To find a place on one of these short benches is distinction enough for almost any man; to be equally at home on both is a rare honor, yet we must admit that Harvey Cushing was both Creator and Inspirer.

As a Creator, Cushing made modern neurological surgery what it is to-day. With the publication of "The Pituitary Body and its Disorders" in 1912, he began a series of monographs and articles, based on his own work, which have led many to look on him as the greatest physician yet produced in America. I say physician purposely, for he had no use for the idea that the surgeon is somehow set apart from the physician; his own definition of a surgeon was "a physician who likes to work with his hands." This series of original contributions continued steadily throughout his stay at the Brigham until, in his "Intracranial Tumors", pub-

lished in 1932, he was able to report on over two thousand verified brain tumors. In this book, distinguished alike for its small compass and its great content, he was able to record the steady improvement in diagnosis, operability and results brought about by his own efforts. His work at Harvard was interrupted for a short time during the last war, when he was Director of Base Hospital number Five, attached to the British Expeditionary Force and was later Senior Consultant in Neurological Surgery to the American Expeditionary Force.

As an Inspirer he has had few equals. He made men want to work as he himself worked. Let me repeat a tribute made by one of his friends, a layman — "There is one idea which is ever on my mind about Dr. Cushing; the stimulation which he gives consciously and mostly unconsciously to all good works. I have never seen him but what I have looked over my doings for the past days and weeks and decided to do them better and more thoroughly." The work of the present generation of surgeons operating on the nervous system, most of them trained by him or his pupils; the formation of the Harvey Cushing Society in 1932; and the volume containing an account of his seventieth birthday party; all bear eloquent testimony to his inspiration. We may fittingly describe him in Keen's happy words as a "yeasty man."

In 1933 he left Harvard and active operative work to become Stirling Professor of Neurology at Yale. Here he continued to work over material which he had collected for many years, and in 1938 he published the monograph which he considered his most important contribution — "Meningiomas: Their Classification, regional behavior, life history and surgical end results." He was an Honorary Fellow of the Royal College of Surgeons of England, of Ireland and of Edinburgh; and, what he prized most highly, was an Honorary Fellow of the Royal College of Physicians. He was a member of many famous learned societies, and his list of honorary degrees was long, including citations from some of the greatest universities of the world.

Throughout his life most of his time was working time, for he believed, with Dr. Johnson that "he who runs against time has an adversary not subject to casualities." Osler's "Master Word" was his constant companion, and he liked to quote, from the Talmud, "The day is short and work is great. The reward also is great and the Master praises. It is not incumbent on thee to complete the work but thou must not therefore cease from it."

One would think that these many activities would have completely filled his life, but there was another side to the man; he was one of the greatest students of medical history in our profession, and was truly a medical man of letters, as witness his "Life of Sir William Osler", his war experiences "From a Surgeon's Journal", and his medical essays. At his death, on October 7, 1939, he left to Yale a library which was considered to be the finest private collection of medical books in existence.

The "Consecratio Medici" is a collection of essays on various subjects, all with a medical flavor, and takes its title from the first of these. In it Cushing discusses the devotion of the medical man to his profession and his consecration to his task, "the kind of unselfish relation to suffering humanity that made Saint Luke the beloved physician no more nor less than it makes many another doctor of name unheard and unsung to-day." And then he goes on to stress the doctor-and-patient relationship, and it is very interesting to note many of the ideas, which we have met already in the work of the other two men, appearing here again in new guise. He has some very comforting things to say to those of us who are in active practice; for example —"In these days when science is clearly in the saddle and when our knowledge of disease is consequently advancing at a breathless pace, we are apt to forget that not all can ride and that he also serves who waits and who applies what the horseman discovers. In some of our schools so great an emphasis has come to be laid on the science courses, with the patient long hidden from sight, that the better students, under the influence of teachers who have never had clinical experience, naturally come to feel that somehow the practice of medicine among the people is an inferior calling compared to the secluded life of an investigator. . . . But say what one will, the time inevitably comes to each and every one, now in the best of health, when he must needs cry out for some experienced and sensible doctor who can alleviate if not cure his particular ailments, be they physical or mental; and the kind of sagacity and resourcefulness he will expect and need is less laboratory-born than bred of long and sympathetic familiarity with the anxieties and complaints of ailing, damaged, and worn-out human beings . . . there is no inherent reason why the qualities of investigator, teacher, and practitioner should not go hand in hand, be represented in a single individual, and he be none the worse for the mixture." How well he brought about this mixture in his own person we have already seen. And then he closes the essay with the

quotation from the "Confessio" which I have already given.

The pleasing biographical style so apparent in the "Life of Osler" is again evident in some of the essays in this book. "Dr. Garth, the Kit Kat Poet" "William Osler, the Man", and "Louisa Parsons and her Medals" are all sympathetic portraits and good examples of that school of biography which seeks to reveal truly but not necessarily to defame its subject. In common with Paget, Cushing shows himself to be a strong defender of animal experimentation, and his address on "Realignments in Greater Medicine" is a plea for the lessening of restrictions which tend to stifle medical research in Great Britain. And the great change which has come over the operating room since the advent of asepsis and anesthesia is well told in this short passage—"Observers no longer expect to be thrilled in an operating room; the spectacular public performances of the past, no longer condoned, are replaced by the quiet, rather tedious procedures which few beyond the operator, his assistants, and the immediate bystanders can profitably see. The patient on the table, like the passenger in a car, runs greater risks if he have a loquacious driver, or one who takes close corners, exceeds the speed limit, or rides to applause."

But for sheer delightful prose, expressing its content with a whimsicality not even exceeded by Thomas Browne, "The Doctor and His Books" has rarely been equalled. Let me give you a few examples — "It is futile merely to counsel the undergraduate to make use of a library, still more futile to expect him to learn the ropes of a number of different libraries in out-of-the-way places. Books must be put in his path so that he will stumble over them. . . . No, there is only one thing to do with a young man: place both books and cigarettes in his way and caution him to beware of them as dangerous habits. He'll certainly take to one and perhaps both. This may after all be the right tack — to warn young people against books. Or at least against book-collecting; for one may easily become enslaved and soon so enveloped by books that they are on the floor and out in the front hall and in the dining room till you can never find the volume you want and feel sure that your wife or the children must have taken it from the place you last put it, when they borrowed your paste pot and scissors."

"In fact, beware of books. Some biologist has stated that if nature could take her course unimpeded, the world would become populated with elephants wallowing about, knee deep in a seething mass of mice. This man knew nothing of books. As a species they are imperishable, and against their multiplication Nature has no chance whatsoever.* The time will come when every tree has been felled for paper, every calf for leather, and the few long-haired and ill-nourished people left in the world will be madly making card indices of the volumes which have filled every available cranny in which they can be stored. . . . For should you happen to leave a pair of foreign books alone on a shelf in the state known as their original wrappers, they breed with astounding rapidity. Then, too, they have their diseases and are a trouble, like too many children. They have worms; they wear out their clothing, break their backs, dislocate their joints, and require the constant care of a bibliotherapeutist." There is much more in the same happy vein, but I must hold back, lest I copy the whole essay.

In the address with which he closes the book, Cushing pays tribute to Lincoln and Lister as great Emancipators; the one freed a nation from slavery, the other freed a world from sepsis: and he ends his "Consecratio" with these words — "So may our profession reap from Lister's life something far more precious than pride in his accomplishment and the satisfaction of claiming him as our own, namely that spiritual harvest which comes from the example of an unblemished character — for kindness, meekness, and comfort were in his tongue. Though lives die, the life is not dead; and the memory of lives such as these will be reverently and forever shared not by a profession alone, not by a nation alone, but by the universal brotherhood of man."

Here, then, we have three books, written at widely separated periods of time, by medical men whose training and practice differed as widely; yet through all of them we see an underlying singleness of devotion to medicine and service to mankind. Indeed we may suppose that all three gained common inspiration from the Father of Medicine; at any rate, their real philosophy is admirably stated in the old phrase of Hippocrates — "Wherever the art of medicine is loved, there also is love for humanity."

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* Compare this with Thomas Browne's "melancholy *Utinam*".

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INTERCAPILLARY GLOMERULAR SCLEROSIS

DIABETES-NEPHROSIS SYNDROME

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In 1936, Kimmelstiel and Wilson, of Boston, reported eight cases in which they had noted peculiar and distinctive changes in the glomeruli of the kidney. Clinically these cases were found to have diabetes of some duration, with a later development of more or less hypertension, albuminuria and edema. To the histological changes in the glomeruli they gave the name intercapillary glomerular sclerosis.

In 1939, Anson studied the kidneys in 900 consecutive autopsies and found six cases with glomerular lesions like those described by Kimmelstiel and Wilson. All six had diabetes but only two showed the nephrotic syndrome.

Chart I

		No. of Cases	Diabetes	Albuminuria	Edema
Kimmelstiel and Wilson	1936	8	7	8	7
Anson	1938	6	6	6	4
Newburger and Peters	1939	4	4	4	3
Derow, Altschule and Schlesinger	1939	1	1	1	1
Simon	1940	2	2	2	2
Porter and Walker	1941	6	6	6	5
Herbut	1941	9	9	9	7
Siegal and Allen	1941	P.M. 36	35	14?	14?
		Clin. 4	4	4	4
TOTAL		76	74	54	47

In December, 1939, Newburger and Peters, of New Haven, reported nine cases with the clinical syndrome of diabetes, hypertension and albuminuria. This was primarily a clinical study but four of their cases came to autopsy and showed the characteristic glomerular changes. In the same month Derow, Altschule and Schlesinger, of Boston, reported a single case with typical clinical and postmortem findings.

In 1940, Simon of Montreal, reported two cases and in 1941, there have been three publications on this subject. Porter and Walker of Richmond, in February, reported six cases. Herbut, of Philadelphia, in April, reviewed 2,000 consecutive autopsies with nine cases and in the same month Siegal and Allen, of New York, studied autopsy material from 105 diabetics of whom thirty-five were found to show some degree of intercapillary sclerosis but only fourteen had the nephrotic syndrome. They also reported eleven clinical cases, four of which came to autopsy.

I wish to illustrate this condition by reviewing two cases that have come to postmortem examination at Rhode Island Hospital since January 1, of this year, each of which presents typical clinical and pathologic finding. These two cases were under observation for some time so that the progression of clinical symptoms and signs are recorded.

The first, M. N., was admitted to Rhode Island Hospital on January 3, 1938, at which time she was 48 years of age. She had known that she was diabetic for eighteen years but had never taken insulin. While in the house on this admission the blood glucose was, on several occasions, over 200 mg. per 100 c.c. with 2 to 4 plus reductions in the urine. She was discharged February 12, on protamine insulin 15 to 20 units daily before breakfast. At this time there was no albuminuria, no edema and the blood pressure was 120/80.

She was admitted the second time on April 16, 1939. Three weeks before she had first noticed swelling of the ankles. The blood pressure was 130/90. Albumin in the urine was 3+ on several occasions. The specific gravity was 1.010 on concentration test. The urea N. was 15 mg. Total blood protein 5.2 grams. Blood sugar was 200 mg. She was discharged after eight days on 1200 calories and protamine insulin units 10.

She was admitted for the third time on March 16 1941. For six months she had been in bed at home with edema, headaches and dizziness. The blood pressure was 140/76. There was pitting edema of legs, thighs and sacral region. Many rales were heard in the chest. Albumin in the urine was 4+. There were a few granular and hyaline casts. Blood urea N was 52 mg. Creatinine 4.3. Total protein 3 grams, and glucose 260 mg.

Read at the One Hundred and Thirtieth Annual Meeting of the Rhode Island Medical Society, Newport, Rhode Island, May 28-29, 1941.

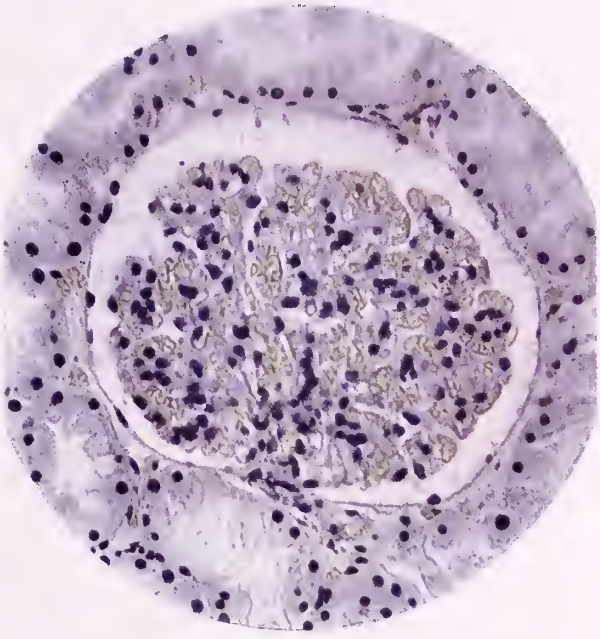

FIG. 1. Normal glomerulus. Note the thinness of the tissue between the capillaries of the tuft and also the thinness of Bowman's capsules. Hematoxylin and eosin stain.

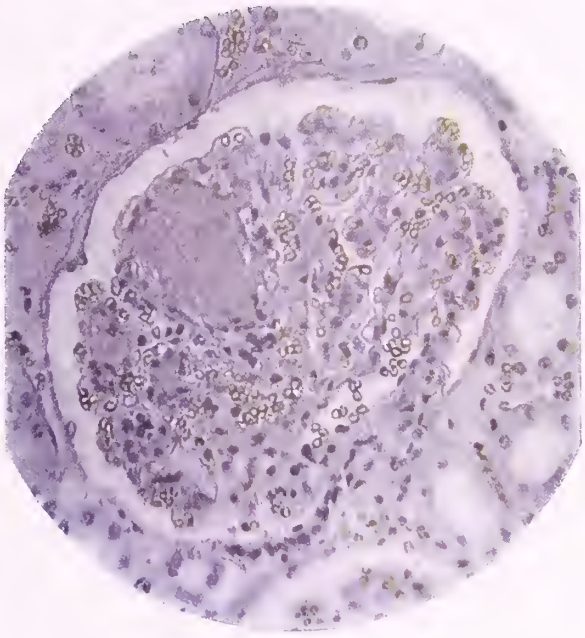

FIG. 3. In addition to a diffuse involvement of all the lobules of the tuft one is especially involved. Here the great amount of hyaline deposit has finally obliterated the capillaries and their nuclei appear in rows about it.
Elsewhere the capillaries remain patent at the periphery. Hematoxylin and eosin stain.

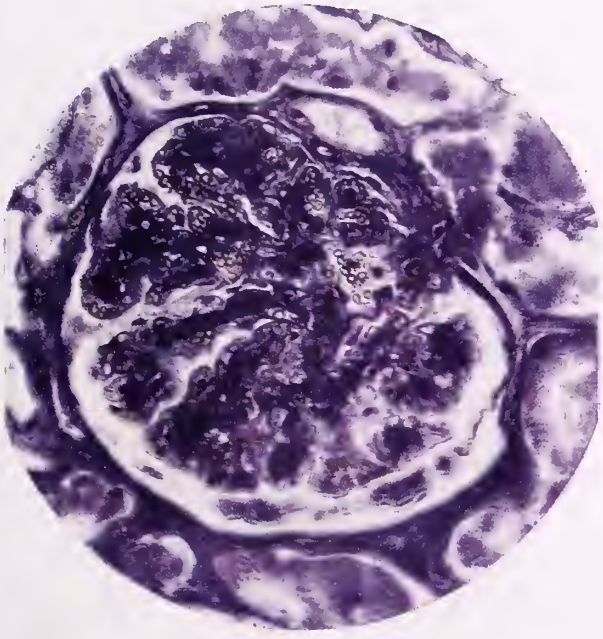

FIG. 2. A moderate degree of Intercapillary glomerular sclerosis. Note the increase of hyaline material both between the capillaries of the tuft and in Bowman's capsule. The material is deposited within the central portion of the glomerular lobules and the capillaries are pushed to the periphery and remain patent. Kimmelstiel stain.

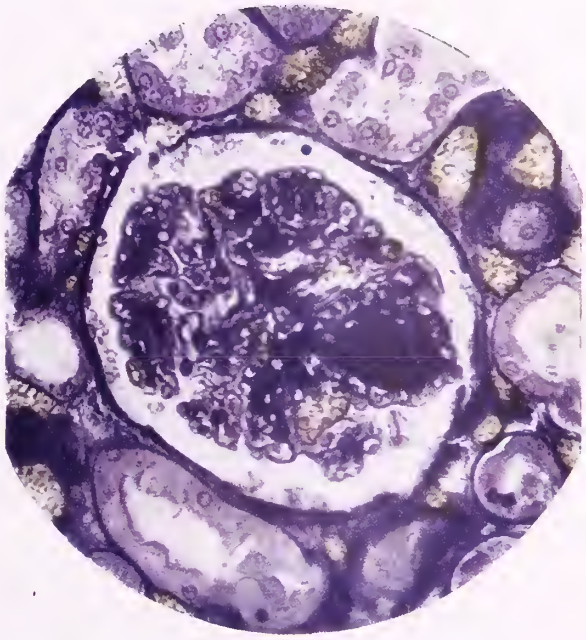

FIG. 4. The same as Fig. 3 stained with Kimmelstiel's stain which brings out the hyaline material.

Death occurred on the fourth hospital day. At postmortem examination there was found anasarca, ascites, hydrothorax and intercapillary glomerular sclerosis as described by Kimmelstiel and Wilson.

The second case F. M., was first admitted to the Rhode Island Hospital, May 26, 1938, with cellulitis of the left thigh. She was then 38 years of age. She had known that she was diabetic for three years but had neglected her diet and insulin. Blood glucose was 235 mg. and the urine 4+ for sugar. Albumin was always present from a trace to 2+. The sediment was negative. There was no edema. Blood pressure was 140/70. Blood urea N. 12 mg. per 100 c.c. After a stormy course the infection was healed and she was discharged after six months on 1,900 calories and protamine insulin units 35.

The second admission was February 2, 1939, because of gangrene of left foot and amputation was done. There was no edema. Blood urea N. was 18 mg. Albumin in the urine was 2 to 3+. Blood pressure was 128/68.

She was again admitted January 4, 1941. There was marked edema and signs of pleural effusion. Blood pressure was 165/78. Blood urea N. was 28 mg. on admission—rising to 45 mg. Creatinine was 5.4 mg. rising to 8.5 mg. The urine always showed 3 or 4+ albumin but concentration ranged from 1.016 to 0.020. The total protein was 2.8 grams. She died after twenty-five days in the hospital.

At postmortem examination there was found hyalinization of the islets of Langerhans, anasarca, ascites, hydrothorax and marked intercapillary glomerular sclerosis.

Pathology

The gross appearance of these kidneys is not distinctive. They tend to be somewhat enlarged or swollen. The color is reddish-gray. The surface is finely granular. The cortex is relatively thickened with demarcations obscured and some radial streaking. The arterioles are not prominent and the pelvic fat is not increased.

The microscopic findings on the other hand are pathognomonic. The essential finding is a deposition of a lipo-hyaline material between the capillary loops of the glomerulus. This begins in the center of the glomerular tuft or of a lobule and extends toward the periphery. This thickening of the intercapillary tissue pushes the capillaries to the periphery. The hyaline material increases to large globules occupying most of the tuft. About them the peripheral capillaries remain patent and may be dilated. Ultimately there may be a solid mass of hyaline tissue. The nuclei of the endothelial cells remain well preserved and may be crowded together so as to lie in rows about the hyaline globule. Finally the nuclei become imbedded within the hyaline mass.

There may be a deposit of the same material beneath the epithelium of Bowman's capsule. There is never any proliferation of epithelial cells or crescent formation. Ultimately the capsular space may be obliterated.

With hematoxylin and eosin stain this material appears as a uniform, pink staining hyaline substance with sparse empty vacuoles. With fatty stains these vacuoles are found to contain fat. This fat is more abundant in the thickened capsule than in the tuft. Stains for amyloid are negative. The epithelial cells of the tubules may contain some fat but never approaching the amount seen in lipoid nephrosis.

CHART II

	Case 1	Case 2
Sex and age	female, 51	female, 40
Duration of diabetes	21 years	6 years
Blood pressure	140-76	165-78
Albuminuria	4+	4+
Nephrotic edema	Yes	Yes
Urea nitrogen	52 mg.	45 mg.
Creatinine	4.3 mg.	8.5 mg.
Total blood protein	3 grams	2.8 grams
Intercapillary glomerular sclerosis	marked	marked

These cases illustrate what seems to be a definite clinical syndrome associated with a specific histologic lesion, as described by Kimmelstiel and Wilson and others already mentioned.

This syndrome is characterized by

1. The appearance of albuminuria in a diabetic (diabetes usually mild and of some duration).
2. Edema; marked and nephrotic type.
3. Hypertension (benign type).
4. Low fixed specific gravity.
5. Nitrogen retention.
6. Low total blood protein (hypo-albuminaemia).

The characteristic lesion is a hyaline thickening of the intercapillary membrane of the renal glomerulus.

The name applied to this condition is Intercapillary Glomerular Sclerosis.

The occurrence of this lesion alters the course of an otherwise mild diabetes to a serious and rapidly progressive malady.

THE RHODE ISLAND MEDICAL JOURNAL
Medical Library Building
106 Francis Street, Providence, R. I.

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THE DIABETIC MORTALITY IN RHODE ISLAND

In recent years Rhode Island has shown the highest death rate from both cancer and diabetes of any state in the union. In discussing the cancer mortality the Journal[1] pointed out the fact that, as cancer is principally a disease of older people, a high death rate from this cause must mean that the diseases which are common causes of death in the earlier years of life, particularly the commoner infections, are relatively well controlled in our state. On this account the record must be considered a creditable one. At the same time, however, it offers all the more reason for efforts aimed at the early detection and cure of cancer so that the lives of our citizens may be still further prolonged.

In exactly the same way a high diabetic mortality must be considered both a cause for congratulation and at the same time a challenge to further endeavors in the control of this important disease.

In a study of the question of the diabetic death rate throughout the country Dr. Elliott P. Joslin[2] pointed out that Rhode Island led all the other states in six of the eight years 1930 to 1937 (inclusive) and added "She should be proud of her record." Grouped with Rhode Island at the top of the list are New York, Massachusetts and Connecticut while the lowest reported mortality was found in Alabama, Arizona, Arkansas and New Mexico. Joslin lists as reasons for the situation in Rhode Island as compared with Arizona the longer span of life of Rhode Islanders, the numerical preponderance of females over males, the high proportion of Jewish people, and, most important in his judgment, more frequent urinalysis and therefore better diagnosis and more accuracy in making out certificates of death.

It must be admitted that the better the preventive medicine in any community and the more excellent the diagnosis and treatment of disease in general the higher on the mortality lists will go the figures representing the diseases of old age, including degenerative conditions of the cardio-vascular, renal and central nervous systems. Parallel with these must go the records of death from cancer and diabetes, conditions which appear more and more frequently in the later decades of life.

While if all this be true, we in Rhode Island may be pardoned a feeling of satisfaction that so much has been accomplished, we cannot accept these results with complacency but must treat them as a challenge. With the acute infectious diseases better and better controlled more and more people will live to develop these maladies of the later years. Among them diabetes is of especial interest as it is a condition which, though in the present state of our knowledge it cannot be cured, can be controlled so that the patient may live out his normal span of life at a level of ninety to one hundred per cent efficiency. In the future we must expect more and more diabetics to appear. If we add to that the fact that with modern methods of control diabetics may be expected to live longer and longer as the years go on, we see that the number of living diabetics will become a greater and greater proportion of our citizens. The care of these individuals consti-

tutes a challenge which must be met by the whole profession and every general practitioner must make himself a specialist in dealing with this increasingly prevalent malady.

1. Editorial, Rhode Island Medical Journal 24:48, March 1941.
2. Joslin, E. P. Universality of Diabetes: The Frank Billings Lecture. J. A. M. A. 115:2033, December 14, 1940.

MEDICINE AND CULTURE

In an address delivered at the opening exercises of Cornell University Medical College, Dr. Samuel Z. Levine stressed the social responsibilities of the physician. There is no doubt that our medical schools stand high and that in them the best instruction in the world is now given in various branches of medicine. But more is demanded of a physician than professional knowledge. The whole personality should be developed to exploit the full benefit of a scientific education. We have only to think of William Osler, Oliver Wendell Holmes, Harvey Cushing and S. Weir Mitchell to grasp the significance of what Dr. Levine preached. These were not only outstanding physicians but men of the world, men of culture, men who were leaders not only in their professions but in the community because of their broad human outlook.

More than any other science, medicine is concerned with human relationships. It is well enough to diagnose disease with the aid of the microscope, the stethoscope and the test-tube. Psychic factors are involved that defy the laboratory technician. It is precisely here that men like Holmes, Osler, Cushing and Mitchell shone. Mind must meet mind at the bedside. In this sense Voltaire and Kant, Spencer and Macaulay have as much to convey to the practitioner as any professor of pathology. And so Dr. Levine would establish a course in social medicine in every medical school to inculcate broad humanism as well as a sense of civic obligation. Give us this humanism and doctors will be in no danger of becoming bureaucrats under some system of "socialized" medicine that would compel them to treat their patients as living machines rather than as thinking human beings.

Editorial. New York Times, September 18, 1941.

CORRESPONDENCE

Arthur G. Randall, M.D.
511 Westminster St.
Providence, R. I.

Rhode Island Medical Journal,

To the Editor:

Dear Doctor:

I am enclosing herewith an old bill which I thought might be of passing interest to you and our medical associates.

It is a bill dated Jan. 15th, 1896 against a Mrs. Sarah Rankine of Pawtucket for Professional Services rendered by Arthur G. Randall, M.D. in a case of Lobar Pneumonia.

The features of special interest are the following: Mrs. Rankine is still living. She is the oldest native born resident of Pawtucket, R. I. She is the oldest member of the Woman's Relief Corps in the state. She will be ninety-six years old in March '42.

The personal note of interest in the case is the following: After graduating from the University of Pennsylvania in June 1895 and starting practice soon after in Central Falls Mrs. Rankine was one of my first patients and has remained such up to the present time, having visited her for an attack of Neuralgia as recently as Sept. 22nd.

Forty-six years of practice in one state and still active, and one of the oldest members of the state society and of the A. M. A. may not be particularly important, but in these days of many doctors and of much "shopping around" on the part of the public such loyalty over a long period of time is, to say the least, unusual.

Sincerely yours,

Randall.

Sept. 24th, 1941.

CHARLES V. CHAPIN HOSPITAL

Dr. William A. McDonnell of Providence, who completed Georgetown University Medical School this year, started an internship of five months on June first.

Four interns commenced a service of six months on the first of July. Three of them are of the 1941 Tufts College Medical School class. Dr. Carl J. Antonellis is from Medford, Massachusetts, and

attended Harvard University. Dr. Isadore Schwartz comes from Quincy and prepared at Tufts College. The third, Dr. Anthony C. Verrone, is from Providence and attended Providence College.

The fourth is Dr. Harold S. Barrett, whose home is in North Providence. He attended Brown University and received his degree this year from the Harvard University Medical School.

The psychopathic ward resident, Dr. Martin Dollin, who began service the first of the year, was called to duty in the Army and left here May 28, 1941. He was succeeded by Dr. Barrito B. Mongillo of New Haven. Dr. Mongillo attended Brown University and Boston University Medical School, and had a rotating service of one year at the St. Mary's Hospital in Waterbury, Connecticut, in addition to three months at the Waltham State Hospital for Mental Diseases.

There are three junior interns this summer, all Rhode Island residents. They are Edmund T. Hackman from Jefferson Medical College, Howard Blazar from Columbia, and Edmund B. Curran from Georgetown.

SURGICAL DRESSINGS FOR ARMY MADE BY AMERICAN RED CROSS

Because emergency conditions might result in a possible shortage of surgical dressings for the Army, the War Department early this year requested the American Red Cross to produce 40,000,000 dressings. These are to be held in storage in Army medical depots against future need.

Shortly after receiving this request, volunteers in 500 of the 3,700 Red Cross chapters were at work on this defense project. By August 1, 24,000,000 dressings had been delivered to the War Department, an additional 10,000,000 were ready to be shipped at chapter houses, while the remaining 6,000,000 were to be finished within a few weeks.

This is but one of many Red Cross activities in the field of national defense. All are supported from the annual dues received during the yearly membership campaign. This year's Roll Call, the most important since 1918, begins November 11 and ends November 30. Members of the medical profession have always supported the Red Cross. This year their support is needed more than ever and all are invited to join their local Red Cross chapters.

INSULIN PRICES

Believing that its position in the insulin industry could only be fully appreciated by a thorough knowledge of the factual background with respect to this field, E. R. Squibb and Sons today issued a statement in connection with its plea of nolle contendre filed and accepted in response to charges of price-fixing brought by the government in March, 1941 under the Sherman Act, thus disposing of this action.

E. R. Squibb and Sons together with C. H. Palmer, chairman of its board of directors, were named defendants, as were the two other manufacturers and distributors of insulin in the United States: Eli Lilly and Company and Sharp and Dohme, Inc., with certain of their officers. The government dropped its action against Dr. John F. Anderson, a vice-president of E. R. Squibb and Sons.

The statement by E. R. Squibb and Sons follows:

There are at present three licensees who manufacture and distribute insulin, Lilly, Sharp and Dohme and Squibb. We have no information regarding Lilly, but we are informed that Sharp and Dohme are at present selling below cost and for the year 1940 alone, Squibb suffered a loss of over $20,000, on its insulin sales as established by an audit prepared by an independent firm of certified public accountants. Moreover, for the ten year period from 1931, profit to Squibb was equivalent to less than 5% of its total sales.

Until recently, there was a fourth manufacturer of insulin. But because of extreme competition in this field, this manufacturer was forced to drop its insulin business.

The cost of the glands used in the manufacture of insulin has increased 60% since 1925 and 30% since 1931. Despite this increase in the cost of glands, improvements in the costs of manufacturing methods have reduced the total cost of manufacturing the product 30% since 1931.

During the same period when manufacturing costs were being reduced 30%, the selling price of our insulin was reduced 75%. A 10 cc 40 unit vial of insulin, the standard vial sold, sold for $2.40 in 1925, $2 in 1931 and at present sells for 57 cents. This means that the average cost of a daily dose to the majority of diabetics was 31 cents in 1931 and is 8 cents today.

The present low cost of insulin to the diabetic emphasizes the competitive conditions in the insulin field, and the fact that this field is not one in which Squibb is profitably engaged. The 1940 losses and the low percentage of profit over the last ten years reveal this clearly; and, in reality, there has been no profit over the last ten years, since research and promotion of the product have consumed a disproportionate amount of time on the part of Squibb's large technical and sales staffs.

The selling costs assigned to insulin in making up its profit and loss figures are merely with respect to volume of sales and not with respect to the total time involved in the promotion and development applied to this product. Large expenditures for research and promotion have not been charged against the cost of production; nor have any allowances been made for capital invested in our insulin plant, equipment, and inventory.

Moreover, the product itself has been substantially improved over the original unmodified insulin sold in 1925 and with the addition of protamine zinc insulin in 1937 and of zinc insulin crystals in 1938, other forms of insulin offering further advantages are being marketed. The last two improved products mean that a dose of insulin will last a diabetic for a much greater period of time and will furnish the diabetic with a more even dosage.

Squibb submits that it has presented to consumers most efficacious types of insulin at prices in every sense moderate and fair, and at the lowest possible cost commensurate with its high quality and standards of production and control.

NEW TREATMENT OF DIARRHEA IN BABIES

Before the advent of Mead's Pectin-Agar in Dextri-Maltose, there were two methods of treating diarrhea in infants: (1) the "starvation" or "rest" method, consisting of withholding food during the duration of the diarrhea, offering the baby water and carbohydrate solutions. While this succeeded in preventing extreme dehydration, the child received practically no food to maintain nutrition, so that, when long continued, his resistance was greatly impaired. (2) the "Finkelstein method," based on the theory that some carbohydrates are especially likely to cause fermentation and prolong diarrhea. His method consisted of high protein feedings in the form of protein milk, sometimes with added carbohydrate, and continues to have many advocates, especially in breast-fed infants. One of the successful modifications has been Casec (calcium caseinate), which can be used for both breast-fed and bottle-fed infants.

In recent years, the use of raw apple and weak tea for treating diarrhea has had various proponents. The literature contains reports by Birnberg, Reglien, Kaliski, Giblin and Lischner, McCaslan, Tompkins, Borovsky, Stein, and Hunt. Smith and Fried believe that any beneficial effects from scraped raw apple are due to the partial starvation effected by the regimen. The success of apple and tea therapy has stimulated hypotheses as to the effective agent. Moro attributed its value to tannic acid. Heisler would also give credit to malic acid and to the mechanical cleansing of the intestines, while Scheer places most emphasis on indigestible bulk. Malyoth believes pectin and cellulose are the active agents.

Based on their experience with apple, Winters and Tompkins devised a mixture of pectin, agar and Dextri-Maltose which was more successful. Others have privately confirmed their finding that a mixture of this nature is of value in diarrhea. Kutscher and Blumberg studied the use of the pectin-agar mixture with and without carbohydrate. They concluded that the addition of Dextri-Maltose to the other constituents was a definite advantage. Various reasons for the effectiveness of both pectin and agar have been advanced but none has a background of experimental proof. It has been claimed that pectin is bactericidal, that its constituent galacturonic acid functions as a detoxifying agent, that it absorbs toxins and enmeshes bacteria, that its hydrophilic nature prevents dehydration, and that it is soothing to an inflamed gastrointestinal tract. Bulk is the only valuable characteristic advanced for the use of agar.

In practice, the application of this method differs from the starvation method in that full caloric feedings are immediately instituted and maintained.

The new method differs from protein milk therapy in that a diet high in carbohydrate is fed. It also has the advantage of palatability, particularly important with older children.

RECENT BOOKS

THE CARE OF THE AGED (GERIATRICS). By Malford W. Thewlis, M.D., Attending Specialist, General Medicine, United States Public Health Hospitals, New York City; Attending Physician, South County Hospital, Wakefield, R. I.; Special Consultant, Rhode Island Department of Public Health. Third Edition, entirely rewritten. pp. 579, with 35 illustrations and 15 charts. Cloth, $6.00. The C. V. Mosby Company, St. Louis, 1941.

The third edition of Dr. Thewlis "Care of the Aged" comes at an opportune time. With a general increase in longevity and a declining birth rate, the physician finds that more and more of his time and attention are required for care and comfort of his aged patients. In the present economic emergency, many of them who had retired from active service are recalled to labor by the need for their skill or by the failure of their planned security.

Dr. Thewlis approaches his subject from a philosophic angle. He writes of "the value of old age," of "neglect of the aged," of "prevention of permature senility," of the means for "prolonging life," of "economic problems of the aged." He follows the accepted opinion that the aged require less sleep than the young but does not approve the view that men over sixty are benefited by the routine use of alcohol. Infectious diseases, pathologic conditions in old age, surgery of the aged are discussed at length. Herschel S. Gluck, D.D.S. contributes the chapter on "Care of the Teeth in the Aged." A. Ray Irvine, M.D. writes the section of the "Eye," and Harold R. Mulligan, M.D. on "Deafness." J. Norton Nichols, M.D. has the last word, with observations on "The Mathematical Angle."

Beside its encyclopedic value, the book is interesting reading. An extensive bibliography is broken down into References placed at the end of each chapter.

THE ESSENTIALS OF APPLIED MEDICAL LABORATORY TECHNIC. By J. M. Fedor, M.D., Blood and Plasma Transfusion. By John Elliott, Sc.D. pp. 241, 80 illustrations, two in full color, Charlotte Medical Press, Charlotte, N. C., 1940.

This attractive volume is an atlas of practical laboratory technic. It is well arranged, well printed, illustrated with many original photographs and drawings. The first chapter is entitled "Essential Laboratory Equipment; its Purchase, Care and Extemporization." Chapter second covers "The Microscope—Its Use and Care." The third chapter stresses the importance of laboratory records and describes a minimum unit for an efficient record system. Subsequent chapters clearly describe the essential diagnostic laboratory examinations.

The aim of the book is to aid the physician, small hospital, and small clinic in maintaining an efficient laboratory unit at minimum cost. It offers the student technician the essential features of laboratory technic in plain terms. Dr. Elliott contributes the valuable chapter on "The Problem of Blood Transfusion."

HANDBOOK OF ORTHOPAEDIC SURGERY. By Alfred Rives Shands, Jr., B.A., M.D., Medical Director of The Nemours Foundation, Wilmington, Delaware, Associate Professor of Surgery in Charge of Orthopaedic Surgery, Duke University School of Medicine, Durham, North Carolina. Second Edition, pp. 477, bibliography and index. Cloth, $4.25, The C. V. Mosby Company, St. Louis, 1940.

This book lives up to its purpose in a most satisfactory manner, the purpose being to present for the consideration of the medical student and the general practitioner the fundamental facts and principles of orthopaedic surgery as concisely as possible and yet in sufficient detail to convey a well-rounded knowledge of the subject. The chapters are evenly distributed and orderly arranged throughout under twenty-four headings. For a review of the field, it makes excellent reading from the very first, each chapter being concise and free from routines and details of treatment. It is an excellent book for nurses, both as a handbook and for teaching purposes, and should be in the library of every general practitioner as a reference book. The bibliography is extremely well handled and of definite value as a reference index to any orthopedist. This book has a definite value as a handbook and the reviewer for one is delighted that it has been published.

ERNEST D. THOMPSON, M.D.

MICROBIOLOGY AND PATHOLOGY. By Charles F. Carter, B.S., M.D. Second Edition, pp. 755, with 165 text illustrations and 25 color plates. Cloth, $3.25. The C. V. Mosby Company, St. Louis, 1939.

This book has been revised to meet the demands of the Curriculum Guide of the National League of Nursing Education. There are two parts to the book.

Part I. deals with the General Principles of Microbiology, the Relation of Bacteria to Disease, Immunology, the Bacteriology of Water and Milk and Special Bacteriology of Organisms causing disease.

Part II. deals with Pathology as outlined in the course on Introduction to Medical Nursing. Many other chapters contain concise reference material for the courses in Medical and Surgical Nursing.

Dr. Carter has not tried to present the public health and social aspects of disease which are emphasized in the Curriculum.

Throughout the book the style is simple and direct and should be easily mastered by the student. The paragraphs are short and are prefaced by headings in bold type. The questions at the end of each chapter are easily answered from the text and perhaps are not too stimulating to the bright student. The text contains many fine colored plates and clearly cut diagrams. Laboratory exercises are included in the first chapters of the book. A few generalized references are found at the end of each chapter.

I believe that this book could be successfully used as a textbook in courses in Microbiology and Patholgy for student nurses, especially if the instructor adds the social and public health implications of our profession and supplies reference readings as needed.

Reviewed by G. Marion Holland, M.A., R.N., Director of Nursing Education, Rhode Island Hospital, Providence, R. I.

Cancer, A Manual for Practitioners. pp. 284. The Committee on Publication: George W. Holmes, M.D., Chairman, Ernest M. Daland, M.D., Shields Warren, M.D., Channing C. Simmons, M.D., Boston, 1940.

As stated in its preface, this Manual is published by a committee representing the Massachusetts Medical Society and the American Society for the Control of Cancer. It is intended for the use of the practitioner and contains collected brief articles or chapters by various specialists in the different fields of cancer work.

After preliminary chapters dealing with historical aspects, present research trends, diagnostic methods and principles of cancer treatment in general, the body of the treatise is given to chapters on cancer as it involves the several different organs and tissues of the body. Each of these thirty-two chapters is written by a member of the Massachusetts profession, standing high in knowledge of his special subject. The concluding chapters deal with terminal care, relief of pain by Neuro-surgical methods, the Massachusetts program, the American Society for the Control of Cancer and its work and National Activities for the Control of Cancer. The final chapter is devoted to suggestions for talks to lay audiences on cancer.

The committee of publication seems to have done an excellent job in so comprehensively covering so hard a field in so sound and conservative a manner, presenting the picture in an easily readable and understandable way, giving the large facts necessary to its purpose and omitting the technical details which only serve to confuse.

After reading this book it seems a pity that its distribution cannot be made wider. Certainly in editing and publishing the excellent manual through its committee, the Massachusetts Medical Society has placed itself a great step ahead in the campaign for the control of cancer.

George W. Waterman, M.D.

Cancer in Childhood and a Discussion of Certain Benign Tumors. Edited by Harold W. Dargeon, M.D., F.A.C.P. pp. 114, with 32 illustrations, 9 tables and a complete bibliography. Cloth, $3.00, The C. V. Mosby Company, St. Louis, 1940.

In this small volume is presented the experience of the staff of the Memorial Hospital for Cancer and Allied Diseases, with cancer in childhood. The book is edited by the attending pediatrician, Harold W. Dargean, and purposes to review the disease as it affects the child, both as shown in the literature and in the personal experience of the authors. It is of special interest to the pediatrician.

Dr. Ewing writes the first chapter and surveys the whole subject of cancer in childhood. He reviews the literature and makes the point that the discussion of tumors of childhood should include only those seen in the first ten years of life, when the peculiar growth and nutritional factors of childhood are in full control and before maturity brings into play adult causative factors, with the production of tumors which are more characteristic of those seen later in life.

Chapters follow by Dargeon, "Malignant Tumors in Childhood"; Bradley L. Coley, "Malignant Tumors of Bone in Children"; Lloyd F. Craver, "Lymphomas, Leucemias and Allied Disorders"; Archie L. Dean, "Cancers of the Genitourinary Organs"; John A. Kelly, "Gynecologic Cancer"; Hayes E. Martin, "Cancer of the Head and Neck"; George T. Pack and Thomas J. Anglem, "Tumors of the Soft Somatic Tissues"; and William L. Watson, "Blood and Lymph Vessel Tumors",—all specialists in their respective fields.

This book will be of importance in bringing an interesting, if rather rare phase of the cancer problem before those interested.

George W. Waterman, M.D.

X-Ray Therapy of Chronic Arthritis. By Earl Goldhamer, M.D. pp. 131, with 24 illustrations, two roentgenograms, and four tables. Cloth, $2.00, Radiologic Review Publishing Co., Quincy, Illinois, 1941.

This exhaustive treatise on the X-ray treatment of chronic arthritis, is based on the author's twenty years experience in the treatment of this common disorder. The monograph covers the clinical aspects and pathology of chronic arthritis, its roentgen diagnosis, and the principles and technic of X-ray treatment, with reports of cases and results.

Necropsy, A Guide for Students of Anatomic Pathology. By Béla Halpert, M.D. pp. 75. Cloth, $1.50. The C. V. Mosby Company, St. Louis, 1941.

Necropsy begins with the external examination, then examination of the various organs in situ, then removal of the organs and their gross and microscopical examination. This text considers in detail the topography and anatomy of the various organs, with special reference to regional lymph nodes and tributary blood vessels. The material is arranged in the sequence in which the necropsy is performed to facilitate the correlation of the observations with their recording, illustrated by sample necropsy records.

Immunity Against Animal Parasites. By James T. Culbertson, Assistant Professor of Bacteriology, College of Physicians and Surgeons, Columbia University. Pages x + 274, Cloth, $3.50. Columbia University Press, New York, 1941.

A textbook the purpose of which is to acquaint those beginning the study of immunity to the parasitic forms with the fundamental principles of the subject. But it is also intended to give the more experienced a thorough orientation and collation of the heterogeneous and voluminous recent literature dealing with immunity in parasitic infection. Consequently, Dr. Culbertson has presented his material in the manner most useful to the beginning student, the trained investigator, and the practicing physician or veterinarian. The book presupposes a knowledge of both parasitology and immunology.

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Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrheae.[1] An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23,** 201 (March), 1939.

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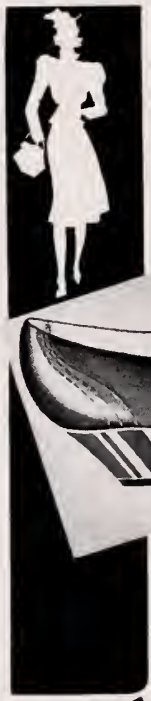

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RHODE ISLAND MEDICAL JOURNAL

Volume XXIV
Number 11

NOVEMBER
1941

THE N.Y. ACADEMY OF MEDICINE
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Petrolagar—The trademark of Petrolagar Laboratories, Inc., brand emulsion of mineral oil . . . Liquid petrolatum 65 c.c. emulsified with 0.4 gm. agar in a menstruum to make 100 cc.

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[1] Jeffcoate, T. N. A.: *Brit. Med. J.* 2:671 (Sept. 30) 1939.

For literature address the Professional Service Department, E. R. Squibb & Sons, 745 Fifth Avenue, New York, N. Y.

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American Can Company, 230 Park Avenue, New York, N. Y.

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(1) 1935. J. Home Econ. 27, 658.
(2) 1931. Ind. Eng. Chem. 23, 1066.

The Seal of Acceptance denotes that the nutritional statements in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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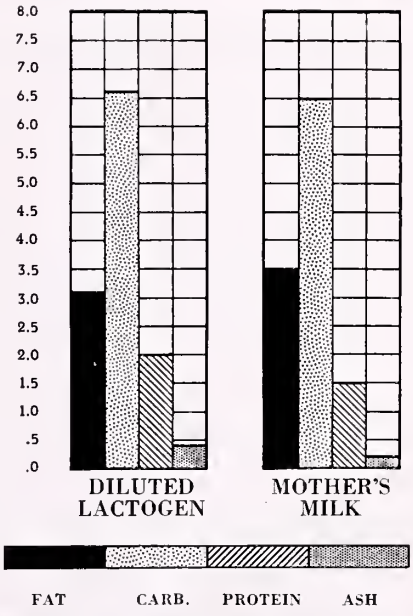

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Clinical Pediatrics, p. 156.

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6 ozs. every 4 hrs.—5 feedings

AGE—FIVE MONTHS
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Milk.....26 ozs.
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The amount of Karo in each formula is optional. During the summer, it may be reduced according to the baby's digestive reaction.

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KUGELMASS: "*Newer Nutrition in Pediatric Practice.*" 1940.

CORN PRODUCTS SALES COMPANY
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Modern up-to-date equipment suggests modern methods of treatment so essential to a satisfactory (doctor-patient) relationship.

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A SERVICE WHICH IS GRATIS

Expert Office and Equipment Planning — Consult Us Regarding Your Problem

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Treatment of disease, to a great extent, is built on confidence. The patient believes in the competence of his physician, and the doctor, in turn, relies upon the company whose products he prescribes.

SECONAL

(Sodium Propyl-methyl-carbinyl Allyl Barbiturate, Lilly)

'Seconal' fulfills the requirements for a hypnotic in the majority of medical and surgical patients. Action is prompt, the period of sleep is restful, aftereffects are negligible. 'Seconal' has definite uses in insomnia, nervousness, extreme fatigue with restlessness, and similar conditions where only a brief sedative effect may be required to allow onset of natural sleep.

Supplied in 3/4-grain and 1 1/2-grain pulvules in bottles of 40 and 500.

Eli Lilly and company

PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.

THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV NOVEMBER, 1941 Number 11

DOCTOR WILLIAM HUNTER

ROLAND HAMMOND, M.D.
219 WATERMAN STREET, PROVIDENCE, RHODE ISLAND

The sturdy band of Puritans which settled Newport was headed by a physician, Dr. John Clarke. He was also a minister, and on Sundays preached at the Baptist church. A tablet to his memory has been placed in the Newport Historical Society, erected by the Newport Medical Society. From this time forward, Newport has been blessed with a series of famous physicians and surgeons, many of whom have contributed to the progress of medicine. One of the most famous of these doctors is the subject of this sketch.

Dr. William Hunter was born in Scotland in 1729, was a relative of the famous Sir John and his brother, William Hunter, studied at Edinburgh under the elder Munro (primus), came to Rhode Island about 1752, gave at Newport the first lectures in anatomy and surgery ever delivered in the colonies, possessed the largest Medical Library in New England, and died in his 47th year. His widow went to England in 1786 and unfortunately directed her agent to burn a trunk full of letters. Were these papers in existence today, we would doubtless know much more of the life of this man who contributed so much to the reputation of Newport as a medical center in the early days. He served in wars before coming to this country, when he was a Surgeon's Mate at Culloden Field, and during the French and Indian War in America he was Surgeon in the expedition against Crown Point and in the successful British march into Canada.

When Dr. Hunter came to this country as a young man of 22 or 23, he brought a valuable collection of books, some of which are now preserved in the library of Brown University. About the same time John Brett, Thomas Moffatt, John Haliburton, and other well known medical men came from the mother country to Newport. Hunter quickly gained prominence in Newport because graduates of European medical schools were none too common in the colonies at that time and he was the first "male accoucheur" in the colony.

In 1755, only three years after his arrival, Hunter advertised in the Boston Evening Post of January 20, 27, and February 3, 1755 (as there was no newspaper in Newport at that time) his intention of giving a series of lectures on anatomy and surgery.

The celebrated Benjamin Waterhouse said concerning these lectures: "About the year 1756, Dr. William Hunter gave at Newport, R. I., the first anatomical and surgical lectures ever delivered in the twelve Colonies. They were delivered in the Court House, two seasons in succession, by cards of invitation, and to great satisfaction. His collection of instruments was much larger than any professor exhibits at this day. Doctor Hunter was a man of talents, well-educated at Edinburgh, and a gentleman of taste in the fine arts." (Peterson.)[2]

Unfortunately the manuscript of these lectures cannot be located, but that they were actually given and well attended is proven by the existence of at least two tickets of admission on the familiar playing card backs (No. 61, Mr. William Vernon, and No. 101, Mr. Brindley). These lectures were probably given for two seasons, 1755, and 1756, in the Old Colony or State House in Newport. There is every reason to believe that they were the first systematic, advertised public lectures on anatomy and surgery known to have been delivered in this country. It is true that Thomas Cadwalader gave lectures and demonstrations of dissections in Philadelphia in 1730, but it is still to be determined if these sessions approached systematic instruction.

Read before the Rhode Island Medical Society at the one-hundred and thirtieth Annual Meeting, held at Newport, May 28-29, 1941.

The material for this paper has been obtained largely from an article by Dr. E. B. Krumbhaar in the Annals of Surgery for Jan. 1935. The author has kindly given permission to quote freely from this article.

Thomas Wood, surgeon of New York, advertised in the New York Weekly Postboy in 1752 that he would give a course in anatomy if sufficient encouragement were given to his advertisement, but it has never been ascertained that these lectures were ever given.

Hunter enjoyed a favorable position in Newport before the Revolutionary War and in 1758 was elected by the General Assembly Physician and Surgeon General to the Rhode Island Troops. As a Tory he was highly esteemed by the British and Colonial Loyalists, but when the Revolutionary War began he was bitterly hated and denounced by patriots such as Ezra Stiles, President of Yale College and other eminent patriots. The population of Newport in 1774 was 7,917 Whites, 1,292 Blacks, and 9,209 Indians. Some items from his ledger gave a glimpse of his daily methods, drugs, and prices.

	Sh.	D.
June 5th Mrs. Wright a box Ointment 2/6. & a Box pills 6/3d	8″	9″
— and Visited 3/ — 6th Visited 3/ — 7th Visited 3/ —	9″	
10 Visited 3/ — 11th the Ointment Repeated 2/6	5″	6″
14 the pills Repeated 6/3 — and twenty powders 5/ —	11″	9″
and Visited 3/ — 22d the pills as before 6/3	9″	3″
22d and powders; again 5/ — and Visited 3/ — July 4th visited 3/	11″	—

Hunter imported his own drugs from London and had an apothecary to put them up and sell them. The successors of this apothecary remained in the Hunter house until comparatively recent times. When the house was sold a few decades ago, a number of old glass jars and delft gallipots were found in the attic.

"He was a most eminently successful practitioner, as well as an operator in surgery; he appeared at that day to be bold and rash, but the truth was, he brought with him from Europe a more exact knowledge of anatomy, and greater chirurgical skill grounded on that knowledge, than existed in the colonies at that period."[3]

In 1761, in old Trinity Church, Hunter married the beautiful Deborah Malbone, daughter of one of the wealthiest aristocrats in the country. His beautiful daughters were highly regarded, and while the French officers were stationed at Newport, the many followers of Rochambeau sang their praises and traced their names upon the windows of their quarters.

Like most successful men, Hunter had his enemies. One of the most vindicative of these was Ezra Stiles. Quoting from his journal[4] written in 1777 we find, "Heard of Dr. Hunters' death in Newport. He was a Scotch Physician — spent about two years in attending the medical Lecture in University of Edinburg — then came over to America 1754 circa, with nothing. Settled at Newport, where he got an Estate, turned chhman (Churchman, i.e. Church of England), became as haughty as a Scotch Laird, high in ministerial and parliam[y] Measures, an inveterate Enemy to American Liberty — dressed well, was much of the Gentleman, lived high & luxuriously — could approve nothing but what was European, despised American Literature & Colleges—of polite Morals. Of natural good Sense & a taste for the belles Lettres —but not a man of any great Reading in any branch of Learning, even that of his own Profession. He tho't he bro't knowledge eno' with him out of Scotland, at aet. 21, for a physician in America."

Hunter is said to have been the first patron of Gilbert Stuart, the celebrated painter. The inventory of his personal estate throws an interesting light on the materia medica of his day. 273 different drugs are listed in amounts varying from a drachm of cinnamon and 31 lb. of ammonia. Many of these drugs have long since departed from our pharmacies, and many are unrecognizable. In Newport and its immediate vicinity reside many descendants of Dr. William Hunter. The writer recalls with particular pleasure a visit one summer afternoon a few years ago to one of them, Miss Anna Falconnet Hunter, who graciously entertained the Providence Medical History Club and exhibited many of the heirlooms which have descended from his day, particularly the glass jars and gallipots which were shown in the lantern slide. She also accompanied us on a tour, where we visited the apothecary shop and home, and his grave in the church yard of the old Trinity Church.

"Why should this man be given a distinguished position in early American medicine? Certainly not on account of his famous namesake, whether or not the relationship could be proved. The manuscript of his lectures, if it could be found, would of course afford a much more valid basis for judging his medical attainments than the scanty statements given here. According to Thatcher, he cor-

responded with Cullen and "his own illustrious kinsmen," but it has not been possible to uncover this evidence. At least, no letters from the Hunter brothers to their ancestor are known of by his descendants today. It might fairly be said that, possessed of unusual charm of personality and culture and of more than the average natural intelligence, fortunate in being trained in one of the best medical schools in the world, Hunter came to a new country to have given a publicly announced, successful course of lectures on anatomy and surgery. The importance of such an achievement need hardly be further emphasized. His military activities and successful professional career bear further witness to his worth and ability. Nor should his political attitude during the Revolution be regarded as other than the natural response of one of his position — an attitude similar to that of many of the leading citizens of New York, Pennsylvania and New England, well understood by most of their class and easily forgotten in favor of those who threw in their lot with the new country after the war was over. What the country lost by his early, untimely death can only be conjectured."

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THE MANAGEMENT OF PATHOLOGICAL LESIONS OF THE JAWS

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The diagnosis and treatment of lesions of the jaws and adjacent tissues fall within the field of specialization known as oral surgery. Although unable to lay claim to a long period of existence as an entity comparable to the many specialties in medicine, oral surgery is, nevertheless, firmly established upon sound principles. Since the pioneering days of Brophy and Gilmer constant progress has been made which has been further augmented by the World War experiences. That today pathological lesions of the jaws are sometimes improperly handled is not attributable to any inadequacy of concepts of treatment, but rather to the failure to observe and apply those fundamentals which have been tested in the crucible of clinical experience.

Of the innumerable diseases involving the jaws, osteomyelitis ranks high in severity. The acute stage is characterized by excruciating pain, elevation of temperature, swelling of the part and signs of toxemia. The exciting cause is frequently the lighting up of some latent infection associated with the dental system; lowered resistance of the patient is an important factor. The deformities that result from ill-advised surgery can be little short of ghastly;[1] consequently, there is much need for conservatism. Treatment should consist of provision for adequate drainage, the removal of sequestrated bone and the building up of the general resistance of the patient. It is to be noted that acute osteomyelitis in children may result in an assymetrical facial contour. For this reason the treatment of acute jaw infections of the young assumes great importance.

The evolution of the theory of focal infection has given to dental disease a status not previously associated with it. Irrespective of the tendency to minimize sometimes the effect of infected teeth upon the general health, the belief prevails and it appears with sufficient substantiation, that such teeth do exert a definite influence on the course of systemic disease. At least it is to be conceded that the presence of infection at the apex of a tooth as in other parts of the body, lowers the resistance of the individual and thus renders him susceptible to the inroads of disease. This interrelation of general health and oral disease has brought physician and dental surgeon together upon common ground. Pain, which may radiate along the side of the cheek, within or around the ear, and throughout the facial regions, can frequently be traced to the presence of infected or impacted teeth. As an aid in the diagnosis of pathological changes involving the jaws the X-ray has become an invaluable adjunct.

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From the division of Oral Surgery, the Massachusetts General and Carney Hospitals.

Two types of cystic lesions commonly involve the maxillary bones. The radicular cyst is found to originate always from a devitalized tooth, the membraneous wall developing from normal epithelial rests. The follicular variety develops about the crown of an unerupted tooth. Since the third molar is frequently impacted the angle of the jaw is obviously a familiar location for this type. Excepting the adamantinoma which is locally malignant, these lesions are of a benign nature. Through progressive enlargement they may encroach upon contiguous structures often assuming large proportions. The treatment of cysts of the jaws is founded upon the oft-observed clinical fact that release of the pressure exerted by the fluid content will initiate the process of bone regeneration. A significant further observation is that the epithelial lining should not be considered true pathological tissue. Knowledge of these basic facts has revived the use of the Partsch operation. The enucleation method in the case of large cysts can only be viewed as radical surgery, leaving in its wake normal teeth shorn of their nerve and blood supply, invaded maxillary sinuses and deformed jaws. The increasing recognition of the desirable features of this operation is noted both here and abroad in the trend toward conservatism in the treatment of cystic cavities.[2]

Major trigeminal neuralgia or tic douloureux may be differentiated from all other forms of neuralgia by the definite clinical features which characterize it. The pain is paroxysmal, lasts but a few seconds, comes and goes like a flash of lightning; it is provoked by eating, swallowing, talking, shaving or washing the face.[3] Even though it may radiate over a large area, there is always one spot, sometimes referred to as "a trigger zone," in which it is severest. The disease is as a rule unilateral. Though much is yet to be learned about its etiology the treatment of tic douloureux is thoroughly established. Too much stress cannot be placed upon the importance of first definitely determining the particular nerve which is involved. The use of novocaine to anesthetize the various branches is especially effective for the purpose of preliminary study. Sectioning the sensory root of the gasserian ganglion is practiced in the worst cases. However, severing the terminal branches of the fifth nerve and the use of alcoholic injections will keep most of these unfortunate patients in a satisfactory state of comfort.

Numerous neoplasms develop within the oral cavity. The most common is the benign giant cell tumor known as the epulis; it arises either from the periosteum or peridental membrane. In addition the fibroma, papilloma and osteoma are found. The necessity for early detection of signs of malignancy applies with equal force to the mouth. Ulcerative areas which do not heal and tend to bleed on slight irritation should be viewed with suspicion. In swellings of the maxillary regions a differential diagnosis should always be made between alveolar abscess and primary cancer of the antrum. All growths of the mouth should be subjected to pathological study to determine the histological character.

Although most often caused by traumatic rather than pathological means, fractures of the jaws continue to occupy an increasingly important place in that group of injuries which affects the bones. In contrast to the simpler type produced in the past, automobile injuries are today usually of a crushing and comminuted nature. Lacerated facial tissues and multiple fractures of the maxillary bones testify to the force of the impact of modern transportation vehicles. In spite of the fact that the principles underlying the treatment of fractures of the jaws were long ago established, cases are daily being handled by methods which are now considered obsolescent. By far the majority of fractures can be treated by means of intra-oral immobilization. The headbandage is of limited value for fixation purposes. When carefully performed by the trained oral surgeon restoration of functional and cosmetic requirements is readily obtainable.

The management of pathological lesions of the jaws entails the use of the diagnostic tripod of clinical observation, X-ray interpretation and laboratory findings. Diagnosis is based upon correlation of the facts thus derived. Failure to obtain good end-results is attributable in many cases to the departure from those principles which have been long existent and firmly established in the field of oral surgery.

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ADDISON'S DISEASE

MANAGEMENT OF A TYPICAL CASE WITH DESOXYCORTICOSTERONE ACETATE IN OIL AND BY PELLET IMPLANTATION

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The management of Addison's Disease prior to 1930 was very unsatisfactory, and the prognosis was very grave. Since then the treatment of acute adrenal insufficiency has made rapid strides.

The preparation of a potent cortical extract in 1929 by Pfiffner and Swingle,[1] the value of sodium chloride as pointed out in 1933 by Loeb,[2] and the relationship between cortico-adrenal insufficiency and potassium metabolism as emphasized in 1936 by Truszkowski and Zwemer[3] are a few of the fundamental advances which in the past several years have stimulated much important investigation in the management of this condition.

The next major advance came in 1937 when Steiger and Reichstein[4] prepared desoxycorticosterone synthetically. Later, in 1938, Reichstein and Von Euw[5] isolated desoxycorticosterone from fresh adrenal glands.

The preparation and isolation of this cortical principle marked the beginning of a long series of important papers on the subject, notably by Dr. George W. Thorn and his associates of the Hopkins group, and others.[6, 7, 8]

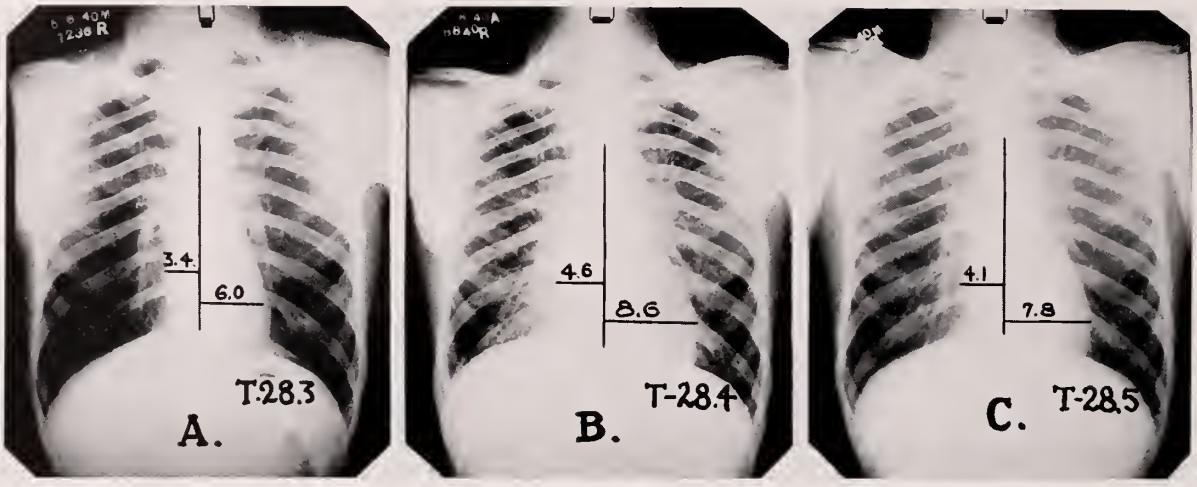
The following case is reported because it represents a typical case of acute Addison's Disease successfully treated with desoxycorticosterone acetate in oil and subsequently maintained in excellent balance with pellet implants of the crystalline adrenal cortical hormone.

Report of Case

HISTORY: H. B., a 36 year old white married male was admitted to the medical service of the Rhode Island Hospital on May 4, 1940 complaining of pain in the left upper abdomen and flank, weakness and darkening of the skin. His present illness began 6-8 months before admission when the patient first noted increasing weakness and easy fatigue. In April, 1940, (five weeks before admission) he suddenly became worse and felt generally poor. He lacked energy and had no ambition. Weakness became most unusual for shaving or even talking to a prospective customer seemed to consume all his strength. There was marked anorexia, and he had lost about 20 pounds in the several months prior to admission. During his illness he had become practically impotent being unable to carry on normal sexual activity. Three weeks before admission a business associate called the patient's attention to the "yellowish" appearance of his skin, and from that point on many had noticed the change. About ten days before he was seen at the hospital he developed sharp abdominal pain which localized in the left upper flank and costovertebral angle. At this same time he noted an increased desire for salt on his food. There was little or no nausea or vomiting. Because he was becoming progressingly worse he was forced to seek medical advice.

The patient's sister-in-law has pulmonary tuberculosis and his brother-in-law is thought to have died of this condition recently. The patient's past health had always been excellent.

Physical examination on admission, May 4, 1940, revealed a thin, dehydrated, poorly nourished white male of slight build. He was drowsy and appeared rather weak and showed evidence of considerable weight loss. His temperature was 99° F., pulse rate 85 per minute, respirations 22 per minute and blood pressure 98/55 mm. Hg. He weighed 49.7 kilograms (109 lbs.). The skin over the entire body was diffusely tanned but the skin of the face, neck, axillae, hands and genitalia showed an intense brownish discoloration. The areolae were almost black as were several nevi scattered over the surface of the body. The buccal mucosa contained a large patch of bluish brown discoloration and numerous smaller, discrete patches of pigment were easily visible along the soft palate. There was a mild but definite bilateral conjunctivitis. The lungs were clear. The heart sounds were distant and of poor quality, and the peripheral pulses were feeble. The abdomen was everywhere normal except at the left upper quadrant where tenderness on palpation was elicited but no spasm or masses were present. Marked tenderness was also elicited at the left costovertebral angle. The remainder of the examination was considered normal.



A—May 6, 1940 B—June 6, 1940 C—June 17, 1940

Fig. 1. Serial Teleorentgenograms showing (A) the size and appearance of the heart and lungs two days after admission; (B) the increase in the transverse diameter of the heart and pulmonary congestion when signs of drug overdosage developed a month later; and (C) the normal chest plate 11 days after B when the patient was well under control and in excellent condition.

Laboratory Data on Admission: The red blood cell count was 5.3 millions; hemoglobin 15.5 grams (108 per cent); white blood count, 8,800 with polymorphonuclears 68 per cent; eosinophiles 4 per cent; lymphocytes 22 per cent; and monocytes 6 per cent. The sedimentation rate (Wintrobe) was 48 mm. in one hour and the volume of packed red blood cells was 46 per cent. The blood Wasserman and Hinton tests were negative. The blood urea nitrogen was 16 mg. per 100 c.c.; blood sugar 86 mg. per 100 c.c.; carbon dioxide combining power 47 volumes per 100 c.c. of plasma; whole blood sodium chloride 487 mg. per 100 c.c.; icteric index 6.6. Examination of the urine was not remarkable except for a one plus sugar. Tuberculin 1:1000 was mildly positive.

The basal metabolic rate was minus 11.6 per cent. X-ray of the chest revealed normal lung fields, and a small heart, measuring 9.4 centimeters in its greatest transverse diameter, this being less than one third the internal diameter of the chest (Fig. 1A). A flat plate of the abdomen revealed no evidence of pathology in the regions of the adrenal glands. An electrocardiogram was reported as being within normal limits. A skin biopsy showed a marked degree of pigmentation of the skin due to melanin.

Course in the Hospital

Three days after admission the patient was placed on a salt free diet. In less than 48 hours a typical Addisonian crisis was precipitated. This was manifested by nausea, vomiting, severe left upper abdominal pain, anorexia, marked exhaustion, drowsiness and the feeling of impending death. He appeared critically ill. Examination of the abdomen revealed exquisite tenderness and some spasm in the left upper quadrant and tenderness in the left costovertebral angle. The findings were almost indistinguishable from an acute surgical abdomen and had not the diagnosis of Addison's Disease been made, the patient would certainly have been a candidate for surgical intervention. Auscultation of the heart was not especially remarkable except for sounds which were feeble and distant. The blood pressure was 80/40 mm. Hg.

Laboratory data obtained during the crisis as well as subsequent data determined at frequent intervals are recorded on Chart 1.[9] The whole blood sodium chloride[10] fell from 487 mg. to 437 mg. per 100 c.c. and the blood urea nitrogen rose from 16 mg. to 32 mg. per 100 c.c. In view of the patient's critical condition further delay in the institution of specific therapy was no longer considered advisable. It was at this point that the

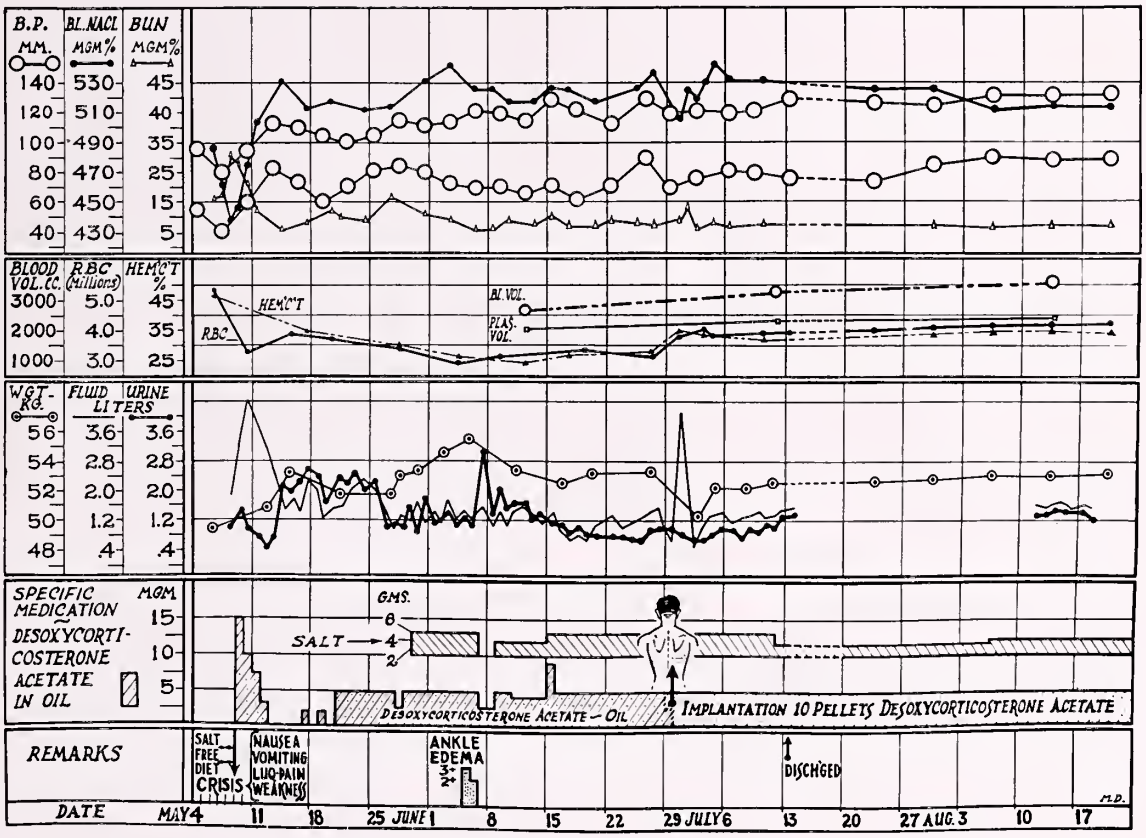


CHART I. Shows the progress of the patient over a period of 4 months. Complete explanation is found in the text.

new cortical principle was started. He was given 15 mg. desoxycorticosterone acetate in sesame oil intramuscularly in divided doses and intravenous infusions of normal saline. In a few hours a rather dramatic clinical recovery had occurred. He was now able to talk and sit up in bed. For four days following the crisis he received the synthetic hormone in maintenance doses supplemented by intravenous infusions, fruit juices and Addison's elixir.[11] Chart I clearly shows that coincident with the institution of specific therapy the blood salt rose sharply and the blood urea nitrogen fell until both values were within the normal range. The blood pressure which was 80/40 mm. Hg. during the crisis in a few days rose to 110/80 mm. Hg. The red blood cell count fell from 5.3 millions (hemoconcentration) to 3.3 millions within 24 hours and the volume of packed red blood cells decreased proportionately in the same period of time (hemodilution). These values, namely, the rise in the whole blood sodium chloride, the decrease in the blood urea nitrogen, the increase in the plasma volume, the fall in red count and hematocrit, the elevation in blood pressure and the marked improvement in the patient generally showed that a more normal sodium chloride and water balance had been established.

On 5 mg. desoxycorticosterone acetate in oil daily, supplemented by 6 grams of added salt in the form of enteric coated tablets and a regular diet without potassium restriction, the patient improved steadily and was out of bed in less than two weeks. He did exceedingly well on this regimen for one month and it appeared as if the patient were in excellent salt and water balance. But at this time the patient developed signs of overdosage. These

were pitting edema of the ankles, pulmonary congestion (basal rales), increase in the transverse percussive diameter of the heart (Fig. 1 B) and sudden weight increase (Chart, June 6). The findings were associated with dullness and apprehension and the patient was forced to bed.

A reduction in the dose of the hormone to 2.5 mg., the temporary discontinuance of the added salt in the form of tablets and the complete omission of the elixir resulted in a diuresis, decrease in weight and, subsequently, the disappearance of all signs of overdosage mentioned above (Chart I). An X-ray of the chest 11 days later showed clear lung fields and a decrease in the transverse percussive diameter of the heart (Fig. 1 C). Subsequently, the patient was again placed on 5 mg. of the hormone intramuscularly and only 4-6 grams of salt tablets daily in addition to a regular diet. On this regimen, the patient was finally maintained in excellent balance as determined by: (a) body weight; (b) blood pressure; (c) laboratory data; (d) and the maintenance of normal activity. In addition, potency returned to such an extent that he was able and eager to carry on sexual activity. It is obvious that the extra salt (approximately 10-15 grams) in the form of the elixir was chiefly responsible for the appearance of overdosage signs since readjustment was prompt and complete following its discontinuance. Apparently there had been retention of abnormally large amounts of salt and water from excessive doses of sodium chloride.

Six and one-half weeks on specific therapy under careful observation in the hospital convinced us that the patient was well under control both clinically and as determined by laboratory data.

Implantation of Pellets of Desoxycorticosterone Acetate

Thorn and his associates[12,13] recently found that pellet implants of crystalline desoxycorticosterone acetate may be successfully substituted for the daily injections of the hormone in oil. In addition, they pointed out that one pellet of approximately 125 mg. is necessary for each 0.4 to 0.5 mg. of the hormone in oil that is required daily. They also found that the administration of the hormone in pellet form was 30 to 40 per cent more efficient than the daily injections of the preparation in oil.

On the basis of this fundamental work it was calculated that 10 pellets (1 pellet of 125 mg. for each 0.5 mg. of the oil preparation required daily) would supply the patient with 5 mg. of the synthetic hormone, the amount found necessary for maintenance of normal activity. On June 29, 1940, ten pellets, approximately 1250 milligrams, of crystalline desoxycorticosterone acetate were implanted subcutaneously in the infrascapular region, this quantity being theoretically sufficient to supply the patient with cortical principle for at least one year.

Following the implantation, the hormone in oil was omitted but he continued to receive 3-6 grams of added salt in tablet form daily. The patient progressed remarkably well on this regimen and on discharge two weeks after the implantation (July 13th) the patient was symptom free and in excellent condition. His blood pressure at this time was 130/75 mm. Hg. The red blood cell count was 3,800,000; hemoglobin 11.4 grams (80 per cent); white blood cell count 5,350 and the differential was normal; volume of packed red blood cells 31.5 per cent. The whole blood sodium chloride was 538 mg. per 100 c.c.; blood urea nitrogen 5.6 mg. per 100 c.c.; blood sugar 53 mg. per 100 c.c.; total protein 5.8 grams per 100 c.c.; the blood volume was 3210 c.c. The glucose tolerance test and the basal metabolic rate were within normal limits.

Several teleorentgenograms following the implantation revealed clear lung fields and normal cardiac outlines. Likewise repeated electrocardiographic tracings were normal.

At present, eighteen months after desoxycorticosterone acetate was first started, the patient is well. He maintains normal activity at home and at work without limitation. Since discharge the patient has been making regular visits to the hospital for check up and each visit found the patient in excellent condition. His last visit revealed that he had gained approximately 6 kilograms in weight and the blood pressure had continued at a normal level averaging 128 systolic and 85 diastolic. Repeated blood sodium chlorides have varied between 512 mg. and 540 mg. per cent, the blood sugar between 57 mg. and 82 mg. per cent; the blood volume has continued to rise, the last one being 3520 c.c. Other laboratory data had steadily improved until all values were entirely normal.

FIG. 2. Shows (A) the deeply pigmented hand of the patient and (B) the hand of a normal male.

Comment

The diagnosis of acute adrenal insufficiency was obvious on admission and was definitely confirmed by a brief period of sodium chloride withdrawal.

It is interesting that in spite of the seriousness of the patient's condition on admission, normal values were obtained for whole blood sodium chloride. Likewise repeated chloride determinations on whole blood during the crisis resulted in values only slightly below the normal range (450-500 mg. per cent).

The Benedict Method,[14] which is nearly specific for glucose and monosaccharides of like reducing properties was used for blood sugar determinations. The normal fasting blood glucose by this method ranges from 60 mg. to 100 mg. per 100 c.c. and the curve (Chart II) shows that sugar values obtained after desoxycorticosterone acetate in oil was started were within these limits. Determinations taken at frequent intervals for two weeks following pellet implantation were slightly below the normal range. Since then, however, the glucose metabolism has been essentially normal.

Over-dosage phenomena (edema, pulmonary congestion, increase in weight, etc.), if carefully observed, are readily amenable to a reduction in hormone, the sodium chloride intake or both. The experience in this case, suggests that signs of over-dosage are an important guide in the ultimate regulation of the daily hormonal requirement.

Although the patient is still definitely pigmented, a considerable decrease in the intensity of pigmentation has occurred since specific therapy was first instituted.

Although hypertension has complicated the use of desoxycorticosterone acetate in the experience of others,[15] this has not been a factor in this case. This may be explained by the fact that the patient was assayed for several weeks under careful supervision in the hospital before the implantation of pellets of the crystalline hormone was undertaken.

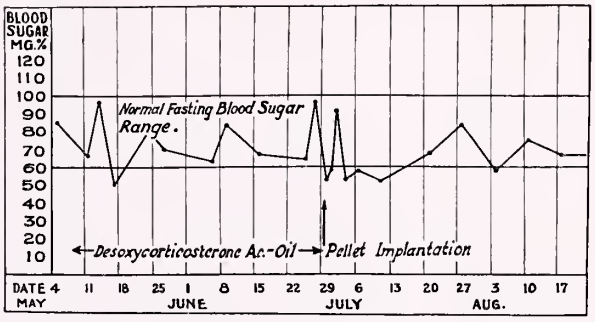


CHART II. Fasting blood sugar values before and after the use of desoxycorticosterone acetate.

Summary

A typical case of acute Addison's Disease is presented. The patient was maintained in excellent balance on 5 mg. desoxycorticosterone acetate in sesame oil supplemented by added salt for six and one-half weeks. Subsequently ten pellets of crystalline adreno cortical hormone weighing approximately 125 mg. each were implanted subcutaneously in the infra-scapular region.

Since discharge the patient has been on a regular diet without added salt and has been symptom free. He has maintained a normal blood pressure and has successfully resumed his activities without restriction at home and at work.

From the Medical Service of the Rhode Island Hospital.
Presented at the meeting of the Providence Medical Association held on June 2, 1941.

Thanks of the writer are expressed to Dr. George W. Thorn of the Johns Hopkins Hospital for his kind advice and help, to Dr. Paul C. Cook for clinical assistance, to Russel O. Bowman, Ph.D. for chemical analyses, and to Dr. Emery M. Porter, Chief of the 2nd Surgical Division, Rhode Island Hospital.

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13. Thorn, G. W., Howard, R. P., Emerson, K., Jr. and Firor, W.: Treatment of Addison's Disease with Pellets of Crystalline Adrenal Cortical Hormone (Synthetic Desoxycorticosterone Acetate) Implanted Subcutaneously. Bull. Johns Hopkins Hospital, 64: 339-365, 1939.

14. Benedict, S. R.: The Analysis of Whole Blood, II. The Determination of Sugar and Saccharoids (Non-fermentable, Carbohydrate-Reducing substance), J. Biol. Chem. 92: 141, 1931.

15. McCullagh, E. P. and Ryan, E. J.: The Use of Desoxycorticosterone Acetate in Addison's Disease. J. A. M. A. 114: 2530-2537 (June 29), 1940.

CONSULTANT AND ATTENDANT

When a physician has attended a case as a consultant, he should not become the attendant of the patient during that illness except with the consent of the physician who was in charge at the time of the consultation.

From the Code of Ethics of the A. M. A.

THE RHODE ISLAND MEDICAL JOURNAL

Medical Library Building
106 Francis Street, Providence, R. I.

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STATUS OF STATISTICS

In a recent paper on "The Statistical Method", H. E. Campbell, comparing immediate with delayed operation, stated: "In the series with delayed operation, the mortality was 1.5 per cent whereas in the series with immediate operation, the mortality was 4.8 per cent. Thus it is seen that death occurs more than three times as frequently after immediate operation." Commenting on this statement, *The Journal of the American Medical Association* holds that "While it is true that 4.8 is more than three times 1.5, from the standpoint of recovery there is little difference between 95.2 and 98.5. The important fact is that the difference is 3.3 and not that 4.8 is three times more than 1.5."

We do not share this callous approach to the interpretation of medical statistics. With the mortality rate of 4.8 per cent more than three times greater

than one of 1.5 per cent, there is a great deal of difference between the recovery rate of 95.2 and 98.5. From the standpoint of the patients in the 3.3 per cent group, there is all the difference in the world.

The statistical method, originated by Louis of Paris, was introduced in this country by Oliver Wendell Holmes in his study of "The Contagiousness of Puerperal Fever." The proposition which Holmes undertook to prove was this: "The disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses." From the report of the Registrar-General of England and Wales he learned that the rate of maternal mortality was about five in 1,000. In the Dublin Lying-In Hospital there was one death from puerperal fever in 278 cases, a mortality rate of 3.6 per thousand. From these figures he calculated that the chance of one practitioner having sixteen deaths from puerperal fever in one month was one in several million. Yet in one month, one midwife delivered thirty women, of which number sixteen caught the disease and died. There were numerous instances in which one physician encountered a succession of cases of puerperal fever while other physicians in the neighborhood had no such cases. There were instances where all the patients delivered by one physician in a period of weeks or months developed puerperal fever. Holmes was able to present statistical proof of his hypothesis.

Holmes found the maternal mortality in England and Wales a hundred years ago to be about five in 1,000, .5 per cent. For the year 1940 the gross maternal mortality at the Providence Lying-In Hospital was .21 per cent. Maternal mortality a hundred years ago was more than twice as great as it is at the present time. In the former time the chance of recovery was 99.5 per cent; at the present time it is 99.79 per cent. The difference is .29 per cent. It would not be fair to hold that there is little difference between the maternal recovery rate of 99.5 per cent and that of 99.27 per cent because this is the statistical statement of the improvement in obstetrics for the past hundred years. For the patients who were treated at the prenatal clinic and were delivered at the Providence Lying-In Hospital in 1940, the maternal mortality rate was .059 per cent. While the difference between the chance for recovery between this record and that of a hundred years ago is represented by the figure .441 per cent, the chance of fatality has been reduced to about one-tenth of the mortality rate of a hundred years ago. There is a great deal of difference.

While it has often been stated that figures can be made to prove anything, statistics of mortality are the most exact check which we have on the results of medical and surgical work. The figures cannot lie but they may be misinterpreted. Often it is better to accept medical statistics without interpretation.

Campbell, H. E.: The Statistical Method. Surgery 9:825, June, 1941.

Statistics in Medicine. J. A. M. A. 117:10, 865, Sept. 6, 1941.

Providence Lying-In Hospital, 57th Annual Report, 1940.

RHODE ISLAND MEDICAL SOCIETY

Council

The regular meeting of the Council of the Rhode Island Medical Society was held at the Medical Library, Thursday, September 18, 1941, at 4 P. M., the President, Dr. Frederic V. Hussey, presiding.

The minutes of the last meeting were read and approved. There was some informal discussion about certain members who are behind with their dues and also about the type of the next scientific meeting.

Present, Drs. Hussey, Mowry, Hammond, Jones, Brackett, Gormly, Ashworth and Buffum.

The meeting adjourned at 4:20 P. M.

Respectfully submitted,

WILLIAM P. BUFFUM, M.D.,
Secretary

House of Delegates

The regular meeting of the House of Delegates of the Rhode Island Medical Society was held at the Medical Library, Thursday, September 18, 1941, at 4:30 P. M., the President, Dr. Frederic V. Hussey, presiding.

The minutes of the last meeting of the House of Delegates were read and approved. The minutes of the last meeting of the Council were read. The minutes of the Annual Meeting and the report of the Delegate to the American Medical Association were omitted because they had already been printed.

The Secretary read a report of the subcommittee on Child Health Relations submitted by Dr. Henry E. Utter.

On a motion by Dr. Mowry, the dues for the ensuing year were fixed at $10.00.

The meeting adjourned at 5:10 P. M.

Respectfully submitted,

WILLIAM P. BUFFUM, M.D.,
Secretary

CORRESPONDENCE

MALIGNANT GROWTHS REPORTABLE

August 26, 1941.

Dear Doctor

Below is a copy of the law, making malignant growths reportable to the State Department of Health.

JANUARY SESSION, 1941—CHAPTER 1014

CHAPTER 1014

AN ACT IN AMENDMENT OF AND IN ADDITION TO SECTION 15 OF CHAPTER 255 OF THE GENERAL LAWS, ENTITLED "DEPARTMENT OF PUBLIC HEALTH AND THE DIRECTOR THEREOF, (NOW DEPARTMENT OF HEALTH AND THE DIRECTOR THEREOF)," AS AMENDED.

S 138 Approved April 9, 1941.

IT IS ENACTED BY THE GENERAL ASSEMBLY AS FOLLOWS:

"Sec. 15 (B) Any physician knowing or having reason to know that a patient treated or visited by him has cancer, carcinoma, lymphoma, sarcoma, leukemia, or other malignant growths, or any superintendent or other person, in charge or control of any hospital or similar institution having in charge or under its care or custody any person suffering with cancer, carcinoma, lymphoma, sarcoma, leukemia, or other malignant growths shall report the same within seven days to the state department of public health, in writing, on blanks furnished by said department as it directs. These reports shall be confidential and not open to public inspection. All persons charged with any duty under this section who shall fail or refuse to comply with the requirements of this section shall be guilty of a misdemeanor and upon conviction thereof be fined not less than $10.00 nor more than $100.00 for each offense."

Trusting that you will cooperate with the Rhode Island Medical Society and the State Department of Health in promptly reporting cases of malignant growths as required by law, I remain

WILLIAM P. SHIELDS, M.D.,
Epidemiologist

CIVILIAN DEFENSE

Washington, D. C.
September 25, 1941

To Secretaries of State Medical Societies and Editors of Journals

According to a joint statement issued on September 4 by the U. S. Director of the Office of Civilian Defense, F. H. LaGuardia, and the Chairman of the American National Red Cross, Norman H. Davis, State and local defense councils are the official agencies responsible for the coordination of all available resources which may be required for civilian protection in the event of belligerent action. Defense Councils should therefore acquaint themselves with the resources of the local Red Cross Chapters in providing food, clothing, shelter, nursing care, transportation, and other basic necessities and should integrate them into the comprehensive local program. Duplication of trained and experienced personnel and of available supplies of the Red Cross should be avoided except where supplementation is essential to meet the anticipated needs of the community.

Very truly yours,

GEORGE BAEHR, M.D.,
Chief Medical Officer

CHILDREN'S BUREAU NEEDS MATERNAL AND CHILD HEALTH SPECIALISTS

Employment registers are to be established by the Civil Service Commission to fill maternal and child health specialist positions in the Children's Bureau of the Department of Labor. Vacancies in similar positions in State agencies cooperating with the Children's Bureau may also be filled from these registers at the request of the States concerned. The examination announcement just issued by the Civil Service Commission to recruit persons for these positions allows the filing of applications until *November 15, 1941.*

There are three options in which persons may qualify—pediatrics, obstetrics, and orthopedics. For each of these options employment lists will be established for administrative, research, and clinical positions. The duties of the administrative positions include giving consultations and advisory service to State and other Government agencies carrying out maternal and child health programs. The research positions involve the planning or directing of studies in such fields as infant and maternal mortality, and child growth in relation to social, economic, and other factors. Persons appointed to clinical positions will do clinical work in one of the options.

A written test will not be given for these positions. Competitors will be rated on their education, experience and corroborative evidence. Applicants must have graduated from a medical school of recognized standing with an M.D. degree and must have served a 1-year interneship. In addition they must have had full-time post-interneship clinical training as well as other appropriate experience in the option selected and in the type of work in which they seek appointment.

Doctors of Medicine who are interested in this opportunity for Government employment are urged to seek further information about these positions which pay from $3,200 a year to $5,600 a year. Further information and application forms may be obtained from the Commission's representative at any first- or second-class post office or from the central office in Washington, D. C.

RED CROSS BLOOD COLLECTIONS TO GO ON NATION-WIDE BASIS AT REQUEST OF ARMY AND NAVY

At the request of the Surgeons General of the Army and Navy, the American Red Cross will extend its blood collection program to key metropolitan cities on the Pacific coast and in the midwest. This was announced at national headquarters by James L. Fieser, vice chairman in charge of Red Cross domestic operations, who said negotiations were now under way with large chapters, which because of the geographical location, size and facilities, were equipped to be included in the program.

At present seven eastern cities are engaged in the project. Collections are shipped by refrigerated express to a processing depot at Philadelphia where blood is reduced to dry plasma form for use by the Army and Navy. Arrangements are being worked out with biological laboratories in the midwest and Pacific areas for processing blood collections received from the cities to be added, Mr. Fieser said.

Plans for extending the collection program were announced following completion of a "pilot" project in which blood donors of the seven eastern cities filled an initial request of the Navy for 15,000 donations. It was explained that most of these, after being processed and hermetically sealed, already have been placed aboard U. S. fighting ships engaged in the Atlantic sea patrol.

"The present emergency requires that the Red Cross take every necessary step to provide as soon as possible an adequate supply of plasma for the Army and Navy," Mr. Fieser said. "Some 200,000 donors will be needed to fill current requests of our military and naval forces. Extension of the collection program will enable the Red Cross to meet these requests.

"Those who have given their blood can have the satisfaction of knowing that it is today on the high seas safeguarding the lives of our sailors. Donations in increasing numbers not only will enable the Red Cross to complete its purpose of supplying adequate supplies to our naval vessels, but also will make it possible to furnish medical units of the Army the amounts requested."

The first step in widening the blood collection program will be to set up collection depots at Los Angeles, San Francisco, Chicago, Detroit, St. Louis, Cleveland, Indianapolis, Cincinnati and Pittsburgh. Those cities now engaged in the program include New York, Boston, Philadelphia, Baltimore, District of Columbia, Buffalo and Rochester (N. Y.). As the program gains momentum, other cities will be added.

Biological laboratories undertaking the processing of the blood have agreed to do so on a non-profit basis, Mr. Fieser said.

ANNOUNCEMENT OF VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meet-

ing of the Association which will be held at Atlanta, Georgia, June 1st, 2nd, and 3rd, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten, double spaced copy sent to the Corresponding Secretary, Dr. T. C. Davison, 478 Peachtree Street, Atlanta, Georgia, not later than April 1st.

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association. This will not prevent its further publication, however, in any journal selected by the author.

UNITED STATES HOSPITAL SERVICE

The most widespread survey ever made of hospital bed facilities in the United States, released by the Census Bureau of the Department of Commerce, reveals that 1,282,785 beds were available in 9,614 institutions for the medical care of the American people in 1939.

The country's 6,991 hospitals and sanatoriums provided the great bulk of this care—355,145,063 patient-days, or the equivalent of one week-end stay in a hospital each year for every person in the United States. Infirmaries and nursing, convalescent, and rest homes provided the remainder.

Existing facilities are not being used fully, the Census Bureau Survey indicated. Allowing a margin of reserve for epidemic peaks, the Committee on the Cost of Medical Care estimated that general hospitals would operate most efficiently with an occupancy of 80 percent, and mental and tuberculosis hospitals with an occupancy of 90 percent.

In 1939, general hospitals were operating at 70 percent of capacity, tuberculosis hospitals at 85 percent, and mental hospitals at 95 percent. The Census Bureau noted that many mental hospitals are overcrowded, due to rapidly increasing hospitalization for this type of illness.

Although only 594 hospitals—less than one in ten—were for nervous and mental patients, they had 602,850 beds or more than one-half of the total for all types of patient. They gave 208,466,000 patient-days of care.

The 5,912 general hospitals gave 122,467,000 patient-days of care, and the 485 tuberculosis hospitals 24,212,000 patient-days.

Approximately 77 percent of the care rendered in 1939 was in state, local and federal government-controlled hospitals, 20 percent in non-profit institutions and 3 percent in proprietary institutions, the Census Bureau noted. The large proportion of care financed by taxes is due to government tuberculosis sanatoriums and government hospitals for mental patients.

MEDICAL-CARE BEDS IN THE UNITED STATES

(Classification based on the "minimum requirements" set up by the Committee on the Costs of Medical Care)

	Total Number of Beds	Beds per 10,000 Population
Good Facilities		
Dist. of Columbia	12,858	194
Massachusetts	66,205	153
New York	192,345	143
Colorado	15,427	137
Maryland	22,836	125
Adequate Facilities		
California	85,365	124
New Hampshire	6,028	123
Vermont	4,387	122
Rhode Island	8,659	121
Washington	20,780	120
Connecticut	20,257	119
Delaware	3,133	118
Wyoming	2,903	116
Minnesota	31,897	114
New Jersey	47,494	114
Oregon	12,238	112
Wisconsin	35,174	112
Montana	6,169	110
Nevada	1,216	110
Illinois	84,871	108
Michigan	55,844	106
Arizona	5,242	105
North Dakota	6,470	101
Inadequate Facilities		
Maine	8,282	98
Pennsylvania	93,756	95
Iowa	23,475	93
South Dakota	5,772	90
Missouri	33,850	89
Kansas	16,070	89
Nebraska	11,506	87
Ohio	59,823	87
Indiana	29,449	86
Virginia	22,929	86
New Mexico	4,363	82
Louisiana	18,357	78
Utah	3,988	73
Oklahoma	16,858	72
Idaho	3,748	71
Florida	13,372	71
Kentucky	18,795	66
Texas	38,821	61
West Virginia	11,477	60
North Carolina	20,711	58
Tennessee	16,514	57
Arkansas	10,946	56
South Carolina	10,670	56
Georgia	17,222	55
Alabama	14,547	51
Mississippi	9,686	44
U. S. Total	1,282,785	97

OPPORTUNITIES FOR YOUNG PHYSICIANS IN CIVIL SERVICE

VERNE K. HARVEY, M.D., *Medical Director*
AND
E. PARKER LUONGO, M.D., *Medical Officer*
UNITED STATES CIVIL SERVICE COMMISSION

Until recently, the opportunities for a career as a Federal medical officer, other than those afforded in the commissioned services of the Army, Navy and Public Health Service, have not received due consideration by the majority of the medical profession in the United States.

Provisions have been made for the employment of physicians in both the commissioned and civilian services by certain laws enacted by Congress and Executive Orders issued by the President. During non-emergency periods approximately the same number of physicians are employed in the classified civil service through open competitive examinations under the provisions of the Civil Service Act and rules, as are commissioned in the Army, Navy and Public Health Service.

Because of the present national emergency, large numbers of recent graduates of medical schools have been employed to provide medical care for the growing armed forces of the nation. This trend has brought about an acute shortage of young physicians available for employment in the classified civil service. The medical functions of the Veterans Administration and other Government agencies, however, must go on both in peacetime and during a national emergency.

Inasmuch as it is inevitable that the ranks of medical officers already in the various Government agencies will be depleted by retirement of the older doctors and by entrance of the younger doctors into active military duty, an effort is being made to build up the staffs of these agencies with young physicians and recent graduates of medical schools who wish to make the Federal service a career. It is therefore necessary to bring to the attention of young physicians the opportunities which are afforded by such a career.

In the past, opportunities afforded by a medical career in the civil service have been obscure in the minds of the majority of the physicians in this country inasmuch as they have not been informed generally of the fields or branches of medical practice which are represented in the civil service. It is not generally known that a physician in the civil service may participate in any phase of medical activity, ranging from a rural practice to the most highly specialized fields.

It may be well to emphasize that not all civil service physicians are employed in large Government hospitals. On the contrary, a considerable number are engaged in the general practice of medicine, for example, those employed in the Indian Service of the Department of the Interior. The Indian Service, besides maintaining general hospitals and sanatoria ranging from 50 to 250 beds, has a very active outpatient department connected with its hospitals, and many of its physicians make home calls, make field trips, conduct school examinations, and administer general public health measures among the Indians.

Young physicians may be employed under civil service as far south as Panama and as far north as Alaska. In the Canal Zone, the young physician who is interested in tropical diseases may receive excellent opportunities to study that subject. Civilian physicians in the Canal Zone are appointed mainly for duty in dispensaries and for quarantine work. The dispensary work consists of general practice involving the attending of Government employees and their families, crews and passengers of vessels, etc. The work of quarantine physicians consists of quarantine and immigration inspection of crews and passengers on incoming vessels.

Positions in Alaska under the Indian Service will appeal to young physicians who have an adventurous spirit, as will positions in the Coast and Geodetic Survey, which afford an opportunity for young physicians to spend some time at sea on Coast and Geodetic Survey vessels. The task of physicians employed in Alaska under the Indian Service is a formidable one because of the climate and the remoteness of some of the villages. However, young physicians of robust health who go to that area have an opportunity to render a great service to humanity.

It is in the fields of general practice, tuberculosis, psychiatry, surgery and public health that the largest number of Federal medical officers are engaged. The opportunities for research in these and other fields of medicine are excellent. Because of the emphasis placed on career service by modern personnel adminstration, "in-service training" is

playing an important part in the life of the young Government physician. In the Veterans Administration, "in-service training" affords opportunities for graduate study. The Veterans Administration operates a large tumor clinic at Hines, Ill., psychiatric clinics at its various hospitals, chest surgery clinics at the tuberculosis hospitals, and at Mt. Alto Hospital, Washington, D. C., it conducts a heart research clinic. These clinics afford excellent teaching opportunities for young physicians.

At St. Elizabeths Hospital, Washington, D. C., fine opportunities for residencies and internships in neuropsychiatry are open to recent graduates of medical schools; these residencies and internships rank among the best in the United States. St. Elizabeths Hospital is under the jurisdiction of the Federal Security Agency.

The functions of medical officers in the Food and Drug Administration of the Federal Security Agency have become of increasing importance since the passage of the Federal Food and Drug Act. Medical officers in the Food and Drug Administration are engaged in a critical review of the labelings of medicines in the light of their composition for the purpose of ascertaining whether or not the therapeutic representations are true or false as judged by a consensus of present-day medical opinion. This work offers excellent opportunities to recent graduates of medical schools who have had, in addition to their regular medical education, experience in pharmacology.

Also of increasing importance have been the medical functions of the Children's Bureau in the Department of Labor. The Child Hygiene Division of the Bureau carries on research and investigation involving fundamental technical medical study of the mental and physical condition of children in relation to heredity, environment, nutrition, and the efficacy of various methods of community health work. There are opportunities in this Bureau for young physicians with special training in pediatrics, obstetrics, or public health procedure, who are interested in extensive research study in connection with maternal and child health and services to crippled children.

In the Public Health Service, there are, in addition to the commissioned force, medical officers who are appointed under provisions of the Civil Service Act and rules. These medical officers are appointed as Acting Assistant Surgeons and are usually detailed for local duty in the vicinity in which they reside. From time to time, however, there is opportunity for them to transfer elsewhere. Acting Assistant Surgeons are employed in connection with practically all the activities of the Public Health Service. These include hospital and relief work, quarantine and immigration work, field investigations, and epidemic control duty. The Public Health Service operates marine hospitals and relief stations throughout the United States. The beneficiaries in these hospitals and relief stations consist principally of merchant seamen, officers and enlisted men of the United States Coast Guard and civil employees of the Federal Government injured in line of duty. A considerable number of Acting Assistant Surgeons are assigned to this work.

The services of Acting Assistant Surgeons are utilized at a large number of marine quarantine stations in connection with the inspection of vessels entering the United States from foreign ports, and in connection with the medical examination of aliens entering this country. There are opportunities in the Public Health Service for Acting Assistant Surgeons to conduct investigations pertaining to industrial hygiene, goiter, anthrax, influenza, malaria, pellagra, pneumonia, tuberculosis, typhoid fever, child hygiene and public health administration.

Medical officers are employed in various other Government agencies. Two medical officers in the Government Printing Office are in charge of a small well-equipped hospital in which employees who are injured or become ill while on duty are treated. The Bureau of Engraving and Printing requires the services of a physician for similar duty. The Census Bureau of the Department of Commerce employs physicians who engage in medical statistical study. In the Civil Service Commission a number of medical officers are engaged in medical activities pertaining to Government employment and disability retirement. This activity is a combination of insurance, industrial and administrative medicine and affords young physicians a basic training in these fields which is unique in the United States.

Inasmuch as the Veterans Administration employs more civil service physicians than any other Government agency, it might be well to discuss this agency more fully. The medical service of the Vet-

erans Administration is comprised of regional offices, facilities and diagnostic centers. The term "facility" is applied to various types of field stations, including those which are hospitals only, those which may provide domicilliary care and hospitalization, others which are a combination of regional offices and hospitals, and still others which are a combination of regional offices and homes. Facilities may be primarily designed for general (medical and surgical) service, or for tuberculosis or neuropsychiatric service. However, some have a mixed service which may be a combination of any of the above services.

The diagnostic centers located at Washington, D. C., Hines, Ill., and San Francisco, Calif., were established for intensive study and observation of patients presenting diagnostic problems, and have consultant staffs consisting of physicians with national reputations in their fields. The diagnostic center at Hines, Ill., has one of the largest and most modern tumor clinics in the world.

Small clinics for thorough diagnosis and treatment of malignant growths are located strategically in facilities in New York City, Washington, D. C., Atlanta, Ga., Portland, Ore., and Los Angeles, Calif.

In nine facilities, scattered throughout the country, centers have been created for special chest surgery.

At the Veterans Administration, research is supervised by specially trained physicians on the staff of the Medical Director, and projects are entrusted to physicians having the basic specific qualifications to conduct them.

At the present time, the chances for early appointment of recent graduates of Class A medical schools who have served an approved internship are good in the Government service. Open continuous examinations have been announced by the Civil Service Commission to fill vacancies in the position of Associate Medical Officer. Physicians appointed to these positions in the Veterans Administration have excellent chances for promotion. If their records are satisfactory, they may look forward with reasonable certainty to a step-up in grade and salary within the first two or three years of their service. The cardinal criterion for advancement in the Veterans Administration's medical service is demonstrated ability.

The matter of compensation for services rendered is an important item to consider in discussing opportunities for a medical career in the civil service. The majority of physicians are appointed in the Associate grade and receive a compensation of $3,200 a year minus a 3½ per cent deduction for retirement purposes. The opportunities offered for advancement to $4,600 and $5,600 a year are good, and many physicians who demonstrate that they have adminstrative ability in addition to a sound medical background may advance to $6,500 and $7,500 a year. A young physician should not expect to accumulate a fortune when choosing a medical career in the Government service; however, he can look forward to a lifetime of adequate remuneration for his service, satisfactory employment hours, and adequate annual and sick leave with pay. He will in addition receive disability and age retirement insurance at a very low rate.

The above items are important, but of course the most important consideration is the opportunity for which every physician is searching, that is, an opportunity to practice his profession and render efficient service to unfortunate human beings. The United States Government offers this career in medicine, surgery, public health, and other specialties which should be of interest to all recently qualified physicians.

Reprint from:
Medical Annals of the District of Columbia
"Annual Scientific Assembly Number", Sept. 1941

RECENT BOOKS

SYNOPSIS OF APPLIED PATHOLOGICAL CHEMISTRY. By Jerome E. Andes, M.S., Ph.D., M.D., F.A.C.P., and A. G. Eaton, B.S., M.A., Ph.D. pp. 428, with 23 illustrations and 36 tables. Cloth, $4.00. The C. V. Mosby Company, St. Louis, 1941.

This is a concise handbook on Pathological Chemistry. The first half of the book covers the chemistry of the blood. Then there are chapters on the chemistry of cerebral fluid, the chemistry of the urine, functional tests, gastric analysis and basal metabolism. It is stated in the preface, "We would like to emphasize here that it is not the purpose or aim of this book to set up biochemical analyses as being superior to clinical observations. In only rare instances are the results obtained by such analyses diagnostic of any pathological condition, and in many diseases, even where laboratory findings show a marked alteration from normal, the changes are incidental or secondary to the disease process itself. Laboratory analyses should be used only to supplement clinical findings, and should be relied upon only when carried out by competent laboratory workers."

The book is recommended to the biochemist, the physiologist, the surgeon, the clinician, and last but not least to the medical student and the intern.

Synopsis of the Preparation and Aftercare of Surgical Patients. By Hugh C. Ilgenfritz, A.B., M.D., and Rawley M. Penick, Jr., Ph.B., M.D., F.A.C.S. pp. 532, with 55 illustrations and 3 tables. Cloth, $5.00. The C. V. Mosby Company, St. Louis, 1941.

This handbook, written by an Instructor in Surgery and by the Professor of Clinical Medicine at Louisiana State University School of Medicine, with a foreword by Dr. Urban Maes, Professor of Surgery and Director of the Department, is a valuable addition to the series of manuals published by the C. V. Mosby Company. The work naturally divides itself into two sections; preoperative care and postoperative complications. Of the aims in preoperative care "the most difficult is the evaluation of the patient as a whole. This problem is sometimes attacked by ordering indiscriminately a large number of tests with the hope that they will give a general idea of the patient's condition. Such practice is both unsound and wasteful." "Postoperative care is largely a continuation of that begun before operation. Of inestimable value in this respect is the information which has been gained about the patient before operation."

The numerous references are placed at the ends of chapters. Illustrations are ample and well chosen. A voluminous subject index completes the work.

Infantile Paralysis. Poliomyelitis. A Series of Six Lectures at Vanderbilt University, April 7, 8, 9, 14, 15, and 16, 1941, under the auspices of The National Foundation for Infantile Paralysis. pp. 229, Cloth. Published by The National Foundation for Infantile Paralysis, Inc., 120 Broadway, New York City. 1941.

This book of less than 200 pages contains a series of six lectures delivered by six men, expert in their particular field, on the subject of poliomyelitis. The symposium, for the most part, deals with the fundamental problems of etiology, epidemiology, immunology, and pathology which are so important in the understanding and management of this subtle disease. Each lecturer reviews, discusses, and evaluates experiments and researches, past and present. Enough details are given to give the reader an insight into the problems and difficulties which the research workers encounter. While admitting failure to find an adequate treatment for the acute stage of the disease, the lecturers are encouraged by the progress already accomplished, particularly in the treatment and rehabilitation of the poliomyelitis patient. The book gives an authoritative summary of the present knowledge on this most dreaded disease,—poliomyelitis.

Kalei K. Gregory, M.D.

Occupational Diseases, Diagnosis, Medicolegal Aspects and Treatment. By Rutherford T. Johnstone, A.B., M.D. pp. 558, with 132 illustrations including 7 color plates. Cloth, $7.50. W. B. Saunders Company, West Washington Square, Philadelphia, 1941.

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Before me, a Notary Public in and for the State and county aforesaid, personally appeared Albert H. Miller, M.D., who, having been duly sworn according to law, deposes and says that he is the Managing Editor of the *Rhode Island Medical Journal* and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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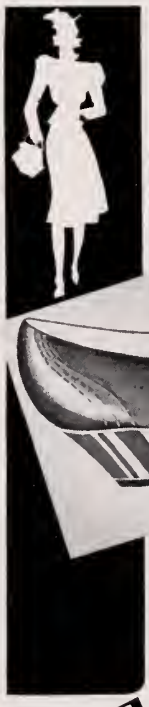

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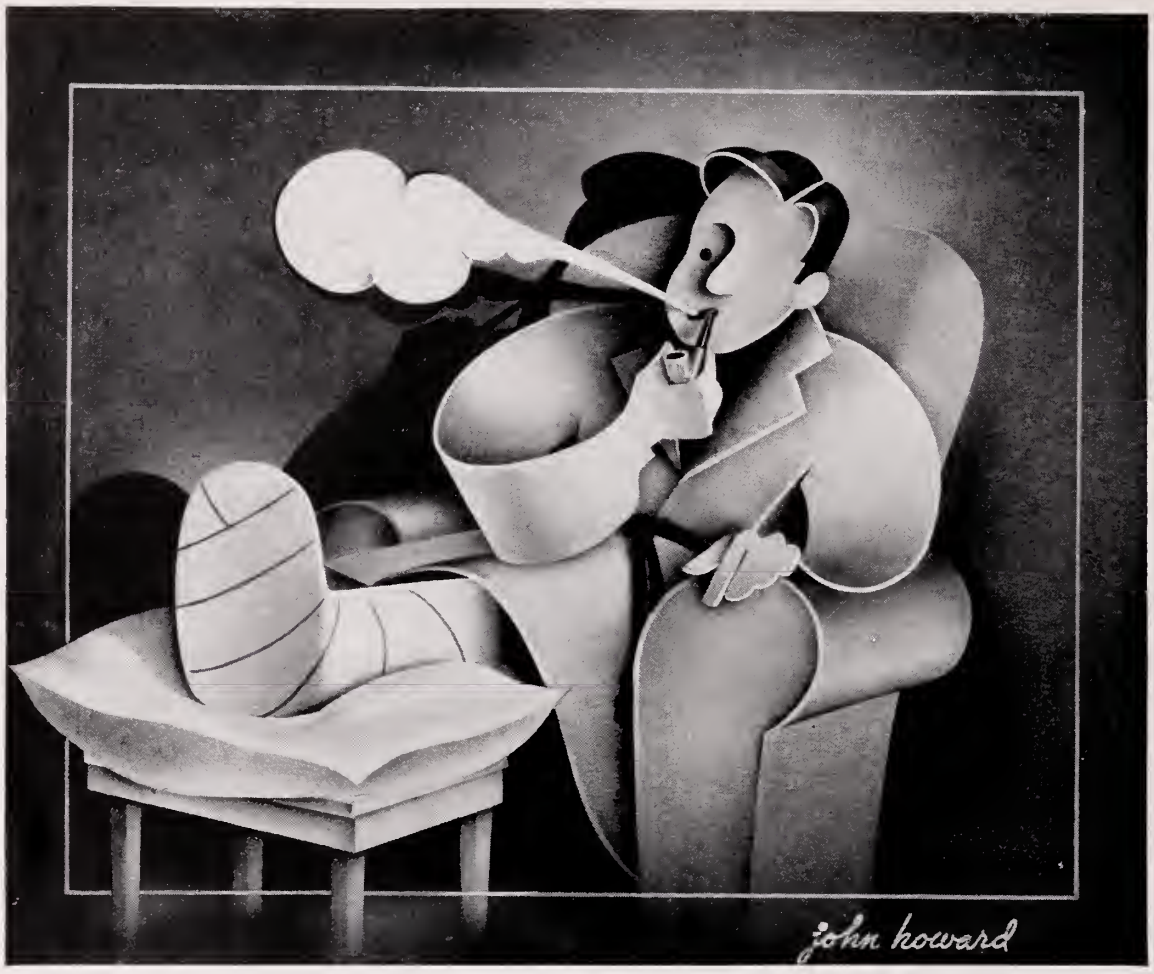

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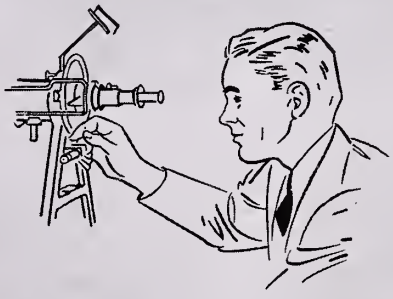

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THE RHODE ISLAND MEDICAL JOURNAL

Volume XXIV DECEMBER, 1941 Number 12

HENRY TURNER OF NEWPORT

A BELATED TRIBUTE TO A PIONEER IN THE FIELD OF CEREBRAL DECOMPRESSION.

WILFRED PICKLES, M.D.
184 WATERMAN STREET, PROVIDENCE

In 1642, Captain William Turner left Dartmouth in Devonshire, England, to settle in Dorchester, Massachusetts, and thus became the founder of a family which contributed notably to the early medical history of our State. Captain Turner was made a freeman of the Colony in the following year. He was a God fearing man to whom religion was more than mere words, for we find that in 1665,[1] "certain persons among whom the prominent ones were Thomas Gouto, Wm. Turner, Edward Drinker, Thos. Osborne, John George etc., finding their views on certain points of Doctrine and Practice, particularly in relation to infant baptism and baptism by sprinkling, to differ essentially from those recognized as Orthodox, among the Puritanical Churches which ruled the Province, withdrew from the Communion of those Churches, and on the 28th. of May established at Charlestown, the Church subsequently known as the First Baptist Church of Boston." That such freedom of thought in religious matters was not looked upon kindly we know from the events leading up to the founding of our own Plantations, and Turner and his companions fared but little better than Roger Williams. They were fined, imprisoned, whipped and banished, but it is pleasing to learn that the Captain, "not being of very flexible material, but rather of the 'sterner stuff' which left so many impressions on the history of those times, declined to sacrifice his convictions." The passage of time, however, must have increased the flexibility of his opponents for he was returned to favor; and in 1676, with a company of a hundred men, he surprised and severely punished a band of Indians at Connecticut Great Falls, now known as Turner's Falls. He was killed by Indians in the same year at Northampton.

Presented at the Annual Meeting of the Rhode Island Medical Society, Newport, May 28, 1941.

Three generations later, the medical succession of the family began with Dr. William Turner who studied medicine in Newport, in the 1720's with Dr. Vigneron in the house at the corner of Farewell and Marlborough Streets. He did not stay in Newport but moved to Newark, New Jersey, where he was a busy and honored practitioner. His son, Peter, studied medicine and returned to Rhode Island, practicing in East Greenwich for many years.

Dr. James Varnum Turner, fourth son of Dr. Peter Turner, was born in East Greenwich in 1789. According to the historian, Bayles,[2] "He acquired the rudiments of his education under the tuition of Master Stephen Franklin, one of the old time pedagogues, who pursued, in its fullest extent, the ancient system of appealing quite as much to the external susceptibilities of his neophytes, as to their intellectual capacity." He married Catherine Ray Greene, who was a descendant of Roger Williams, and whose family included many of the original settlers of Rhode Island. He was one of the charter members of the Rhode Island Medical Society.

Henry Edward Turner was thus in the fourth medical generation of his family, and the best description of his early years which I have been able to find is in his own words, which I quote:[1]

"Henry E. Turner, eldest son of James V. and Catherine Turner, was born at the Govr. Greene 'Homestead', in Warwick June 15th., 1816. Until 1828 the family lived at or near East Greenwich and attended school at the Academy there under Charles H. Alden, Christopher Robinson, Henry Edes, Ebenezer Coleman and others. The next three years, the family being at Portsmouth, he attended the country schools, which were very good, but without Classical teaching; in 1831, he went to Newport, living in the family of his uncle, George

Turner, and attending the school taught by Judge Joslin, in the school house in Church St., formerly John Frazier's, where a previous generation had been trained. This was the extent of his School privileges. At the age of 17, he took up the study of medicine in the office of Wm and J. V. Turner (his uncle and father) and took the degree of M. D. at the University of Pennsylvania in March 1836." In June of that year, he left home for the western country, travelling overland to Jeffersonville, Indiana. He apparently had some idea of settling there, but not finding conditions to his liking, he returned by way of the Mississippi to New Orleans, thence by sea to Boston, and so home.

In September of 1837, he started practice in partnership with his father, an association which lasted until the father's death in 1863. The Newport of those days was a busy seaport, crowded with sloops varying from 25 to 75 tons, and with numerous freight and passenger packets. The fuel used was wood, and large amounts of it were required. Coal was not seen in Newport until 1830, and very little of it was used for many years thereafter. There was a large trade with the Indies, East and West. Travel by land was, according to our standards, very slow; fifty miles a day by stage was considered a good rate of speed. Communication was no faster than the means of transport, until the introduction of the telegraph in 1850. Under these conditions, then, and in the same old house where Dr. Vigneron had instructed his great-grandfather, Henry Turner began a practice which lasted for the next sixty years.

A gentle, kindly man, he soon developed a large general practice, and was very much interested in surgery. From the outset, he was active in public affairs. For nineteen years he was a member of the school committee, and for forty years he was a director of the Redwood Library, eventually becoming its president. He was active and vigorous in politics, serving as Representative in the Legislature for two years. He was a member of the Order of Cincinnati and an honorary member of the Sons of the Revolution.

He was married on July 18, 1844, in the Second Baptist Church, to Ann Eliza Stevens, daughter of Joseph G. and Sarah D. Stevens. They had six children, three of whom were living in 1894, Annie S., Henry E., Jr., and Thomas G. E.

Dr. Turner was greatly interested in historical and genealogical research and wrote several articles on the history of Rhode Island and Newport. He was an active member of the Rhode Island Historical Society from 1874, serving as chairman of its committee on genealogical researches, and was the first resident of Rhode Island to be made an honorary member, in 1897. He was also a member of the Newport Historical Society, and in its archives are preserved several of his manuscript books. These are largely concerned with cemetery records, but one of them contains a careful account of the Turner family from which much of the information given above was obtained. This book is written in a clear, legible hand and shows an interesting but rather needless adherence to custom: the first word of the following page is carefully written at the bottom of each page, as in the printed books of the period, in spite of the fact that the book was apparently bound before the words were written.

His medical activities are shown by his various appointments. He was Port Physician and City Physician from 1853 to 1897, with one very short break, and was Surgeon to the Newport Artillery for twenty-five years. During the Civil War, he was Acting Assistant Surgeon in the Army, serving with the troops at Fort Adams. For many years he was on the Staff of the Newport Hospital and was a member of the Newport Board of Health, and later of the State Board of Health. He became President of the Newport Medical Society, and President and Censor of the Rhode Island Medical Society. On the fiftieth anniversary of his medical graduation he was honored at a banquet by his colleagues and the citizens of Newport, and on the completion of sixty years of practice he was given a loving cup by a similar group of friends.

Here, then, we have the story of a fairly typical doctor of nineteenth century New England. Of good Yankee stock, with a minimum of formal academic and medical education but with a good deal of practical training from older doctors, he was an active, public spirited and beloved practitioner for over sixty years. It is a story which, fortunately for us, has been duplicated many times, and as such it carries no great claim to fame. In a previous publication,[8] however, I have mentioned briefly his observations made on patients suffering from head injuries, and I should like now to consider them in a little more detail.

HENRY EDWARD TURNER

Reproduced from Bayles[2] through the courtesy of the Rhode Island Historical Society.

In the Boston Medical and Surgical Journal of September 25, 1850, Dr. Turner reported a "Case of Fractured Cranium" which he had presented at a quarterly meeting of this Society. His brother Richard had been thrown from a horse, sustaining a[3] "wound on the right side of the head of great extent and frightful appearance. The scalp was lacerated just posteriorly to the temporal fossa, to about the extent of a half dollar; and about two inches posterior to this, a smaller laceration existed. In the anterior of the two wounds the skull was fractured and driven in upon the substance of the brain, so that three fingers might be passed directly down into the brain, an inch or more, without resistance. . . . There was a considerable quantity of brain about the wound, as well as upon the stones where he fell; in fact, the quantity of cerebral matter lost could not (in the whole progress of the case) have been less than an ounce." The patient had been exposed for three or four hours to weather "of the peculiarly penetrating and unpleasant description which characterizes our spring. It is not to be wondered at, therefore (when considered in connection with the extensive loss of blood which must have occurred), that the system was in the lowest state of depression. There was considerable paralysis of the left side, which was very evident upon his attempting to answer questions, which he could do quite pertinently when aroused, although there was considerable stupor, and he was aroused with great effort. Upon examining him, our prognosis was, of course, a fatal one." However, Dr. T. C. Dunn was called and operated upon the patient. He converted the two wounds into one, removed fragments of bone totalling about the size of a dollar, and dressed the wound with lint wet with cold water, changed every ten or fifteen minutes. "On the second morning after the accident, the symptoms became very unfavorable, the convulsive movements set in with renewed force, and the stupor increased; but upon removing the dressings, a quantity of bloody serum and disorganized cerebral matter was removed and instantaneous relief was manifested; and from that time there was a gradual though very slow improvement in the constitutional symptoms, the most serious feature being the remarkable diminution in the rapidity of the pulse, which is almost pathognomonic of serious injuries of the brain, and the removal of which was as gradual as the other evidences of restoration." The patient had a rather stormy recovery. Convulsions were treated by bleeding, and he was given nothing but bread and water for three weeks, after which he was allowed one molasses cookie a day. "After the first few days, a hernia cerebralis occurred, which was treated by pressure made by strips of adhesive plaster drawn over little pieces of sheet lead, and which finally disappeared after about four weeks. At the end of the fifth week, he was removed home, without difficulty, and no unfavorable symptoms afterward occurred to interrupt the cure, which, at the end of the twelfth week, was in all respects perfect, neither his physical or mental condition being at all impaired."

Eleven years later he presented the following account, with an interesting comment on the timelessness of the troubles of committee chairmen.[4] "Having been disappointed in the assistance I had reason to expect from some of my brethren, I have the honor to present, as Committee for the Surgical Department, the following report. . . . On the 19th of September, 1861, I was called in haste to see a man on board a vessel, lying at Long Wharf, in this city, injured in the following manner: A spar had

fallen from aloft, and struck him on the head, producing a fracture of a very peculiar character, viz: a pit, or depression, such as would be occasioned by a man's thumb pressed into dough or putty, with no apparent fracture radiating from it, as might have been expected, but the depressed portion comminuted to an extreme degree.

"I immediately extracted, with forceps, a very large number of fragments of bone, leaving an almost circular hole through the parietal bone, somewhat less than an inch in diameter. Very much to my surprise, I found the dura mater uninjured. . . . I found the man comatose, and he remained in that state about thirty two hours, no recuperative effort being manifested, and no susceptibility to external impressions, when he died. . . .

"I must confess to some disappointment at the entire absence of reaction in the present case, inasmuch as the dura mater was not penetrated, whereas, in my brother's, it was much lacerated, so that the substance of the cerebrum escaped in considerable quantity; and also inasmuch as he received immediate attention and was kept warm, whereas, my brother was exposed for three hours to a chilly, east wind, in April, almost sufficient to cause fatal depression in an uninjured subject. . . . The question very naturally suggests itself, in view of these facts, whether the penetration of the dura mater, and consequent escape of blood, and also the loss of substance, and subsequent protrusion of cerebral matter, in the form of hernia cerebralis, did not, in my brother's case, relieve the brain from pressure, which, in the other case, proved fatal. These reflections did indeed suggest themselves to me in the progress of this case, but I did not feel justified in acting upon them."

A year later, in 1862, he reported a third instance of head injury. The patient was an Irish laborer who had been struck on the head by a billet of wood, in the hands of one of his fellows, twenty-four hours before. Dr. Turner writes:[5] "I found the scalp over and about the parietal protuberance a good deal contused and tumefied, but not much lacerated. He had occasional convulsive movements of the muscles on the left side of the face, which immediately recurred on pressure being made over the seat of injury, which, of course, determined the existence of fracture. As there was no violent reaction, and no coma or other ordinary symptoms of compression (the man being conscious throughout except when under the influence of ether,) I concluded not to operate at that time." Several days later he saw the man again. "As the convulsive movements still persisted, we determined that it was proper to relieve the brain from the compression which evidently existed. Having made a pretty extensive crucial incision, we found a depression of the bone to the depth of half an inch or more, and the depressed portion somewhat comminuted, but not sufficiently so to enable us to remove the fragments with forceps. We therefore applied the trephine above the fracture, and raised the depressed portion with the elevator, and removed the pieces of bone which I exhibit. The dura mater, of course, was perforated; in fact, I could put my thumb down to the first joint into the vacancy in the cerebrum." The patient made a rapid recovery.

"I have been thus particular in giving an account of this case, as it furnishes a pretty good commentary on the doctrine I ventured, with some hesitation, to enunciate a year ago, that, in severe injuries of the head, perforation of the dura mater improves the prospect of relief and final recovery. The case, (my brother's), in which the dura mater was perforated, recovered; in the other, in which it was not, no reaction or consciousness ever occurred. I should not feel justified in opening the dura mater under such circumstances, but I think the question of its propriety worthy of investigation and discussion. I firmly believe that the operation on the present subject would have failed to give relief, had the dura mater remained entire."

Thus, without instruments of precision or laboratory assistance, by careful observation of a few patients over a period of twelve years, and by keen appreciation of the meaning of those observations, Henry Turner was able to establish the basic principle of cerebral decompression—that an opening in the skull does not relieve pressure within it unless it is accompanied by an opening in the dura mater. This accomplishment marks him as one of the great clinical observers and thinkers of American medicine. That he did not carry his idea through into action is a matter of small wonder—the absence of asepsis, and the fear of deliberately induced meningitis were powerful reasons against taking any such radical step. And this does not take away any of the credit which he should re-

ceive for realizing and stating the principle and suggesting its use on patients. But he suffered as many others have suffered from being in advance of the medical thought of his time. I have been unable to find any evidence that his ideas had any effect, or that their importance was realized by any one but himself. It was over thirty-five years later that Victor Horsley,[6] who, in all probability, knew nothing of Turner's observations or even of his existence, made the first deliberate decompression, to be followed by Harvey Cushing[7] in establishing it as an accepted surgical procedure.

We can well be proud of Henry Turner of Newport and his work. May it serve as an inspiration to us, and a reminder that real advances in medicine can still be made by the use of our senses and our sense; by careful observation of a few patients and careful consideration of the facts observed.

Appendix

The Medical Publications of Henry Edward Turner.

1. Case of Fractured Cranium. Read at a Quarterly Meeting of the R. I. Med. Society and communicated for this Journal by order of the Committee on Publications. Boston Medical and Surgical Journal, XLIII, 8:153-154, Sept. 25, 1850.
2. Cases of Tetanus. Read at the Semi-annual Meeting of the R. I. M. S., Dec., 1859. Communications R. I. Med. Soc. 1:77-81, 1877.
3. Supplementary Mammae. Read at the Quarterly Meeting of the R. I. M. S., Oct. 2, 1861. Communications R. I. Med. Soc. 1:172, 1877.
4. Report on Surgery. Read at the Semi-annual Meeting of the R. I. M. S., Dec. 18, 1861. Communications R. I. Med. Soc. 1:185-190, 1877.
5. Surgical Cases. Read at the Semi-annual Meeting of the R. I. M. S., Dec. 17, 1862. Communications R. I. Med. Soc. 1:197-199, 1877.
6. Typhoid Dysentery in Newport. Read at the Annual Meeting of the R. I. M. S., June 1, 1864. Communications R. I. Med. Soc. 1:200-206, 1877.

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1. Turner, H. E.: Manuscript book in the archives of the Newport Historical Society.
2. Bayles, R. M.: History of Newport County, Rhode Island. New York: L. E. Preston and Co., 1888.
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4. Turner, H. E.: Report on Surgery. Communications Rhode Island Med. Soc. 1:185-195, 1877.
5. Turner, H. E.: Surgical Cases. Communications Rhode Island Med. Soc. 1:197-199, 1877.
6. Horsley, V.: On the technique of operations on the central nervous system. Brit. Med. Jour. 2:411-423, 1906.
7. Cushing, H.: The establishment of cerebral hernia as a decompressive measure for inaccessible brain tumors; with the description of intermuscular methods of making the bone defect in temporal and occipital regions. Surg., Gynec. and Obst. 1:297-314, 1905.
8. Pickles, W.: Head injuries—observations based on a study of 554 patients. New England Jour. Med. 224, 4:139-142, Jan. 23, 1941.

TORULA MENINGOENCEPHALITIS

REPORT OF A CASE

Ira C. Nichols, M.D.
Wickford, Rhode Island

The case to be described in this report suffered from a disease sufficiently rare to justify a single report. The material is of particular interest in a study of the diagnosis of intracranial disease.

Torula meningoencephalitis is a uniformly fatal yeast-like infection of the meninges and brain. The diagnosis offers special problems and most of the cases have gone unrecognized to the autopsy table. The sytomatology may closely simulate that of tuberculosis meningitis or of intracranial neoplasm. Stiles and Curtis[1] recently reported that the literature on this disease contains reports of some 95 cases to which they have added a case of their own.

Report of a Case

E.M. The patient was a 59 year old, married, white male adult of New England stock. He had been an industrial engineer by occupation and was considered very capable in his field. His past history was essentially negative except for the fact that he had previously suffered from severe migraine headaches but these had become much milder and rather infrequent during recent years. It was also reported that as a child he had been precipitated into states of delirium whenever he ran a fever.

Toward the end of November 1940 he began to complain that his work was increasingly difficult for him. Early in December of the same year he began to suffer from excruciating right temporal headache. At about this time he was examined very thoroughly by Drs. George L. Shattuck and Harvey B. Sanborn. No significant findings were obtained. On December 21st the patient began to vomit all that he ingested. Seven days later the vomiting ceased as suddenly as it had started. On January 7th, 1941 his sharp right temporal pain, which had remained practically constant since its onset, was replaced by a dull general headache. On

Presented at the meeting of the Rhode Island Society of Neurology and Psychiatry, October, 1940.

The writer expresses his thanks to Drs. George L. Shattuck and Harvey B. Sanborn of Providence for permission to use their findings in this report and to the staff of the Lahey Clinic for permission to use the data obtained while the patient was under their care.

January 9th he began to describe visual hallucinations of a deliriod type. His visions were of little animals running about the room and of strangely colored bizarre shapes. Examination at this time revealed little except that the optic dics appeared as if they might be undergoing early choking. During the next few days he had two attacks of what was described as spells of weakness. In one of these the left hand was observed to twitch. He continued to see little animals playing about his room and on January 13th he was admitted to Butler Hospital for further study.

On admission he seemed somewhat dehydrated and it was rather difficult to hold his attention. He spoke freely of his hallucinations. He was clumsy in skilled acts and the tendon reflexes were markedly reduced. There was questionable choking of both optic discs. Visual fields were negative. His temperature went to 102.4 on the third hospital day, but the following day fell to 98.9 and for the remainder of his stay at Butler Hospital fluctuated between that level and 100.4.

X-ray of the skull done on January 17, 1941, was reported negative.

Laboratory work-up: The urine specimens were essentially negative except for the presence of the slightest possible trace of albumin in three out of four specimens and a few granular casts in one sample. A blood count done on January 14, 1941 showed: RBC 5,030,000; Hemoglobin 100%; WBC 9700; Polymorphoneuclears 80%; Lymphocytes 17%; Monocytes 1%; Eosinophiles 2%.

Blood and spinal fluid tests were negative for syphilis.

Lumbar Punctures: A spinal tap on January 14th gave an initial pressure of 120 but this was probably a spurious reading as considerable fluid had escaped before the manometer could be connected. Laboratory examination of this fluid showed: Cells; 278 Lymphocytes; Pandy positive; Total protein 180; Colloidal gold curve 2223332100.

A repeat tap the following day revealed an initial pressure of 420 mm of water. In this specimen there were 328 lymphocytes and the total protein was 200 mgs.

The third spinal puncture showed an initial pressure of 360. The cell count revealed 230 lymphocytes. A portion of this specimen was cultured in broth but no growth was seen. No tumor cells were seen on a stained smear.

Course in Hospital: The deliriod symptoms continued in spite of correction of the dehydration and scrupulous attention to nutrition. There was also an increasing tendency toward somnolence and toward the end of his stay at Butler Hospital it was almost impossible to keep his attention.

On January 28th he was transferred to the Lahey Clinic with a diagnosis of intracranial neoplasm. From the preliminary studies this clinic concurred in the diagnosis and decided to do a ventriculography to be followed by a craniotomy. The ventriculogram showed both ventricles to be symmetrically dilated. It was assumed that the pathology must be subtentorial and the cerebellar approach was used in the performing the craniotomy. As soon as the meninges were exposed it was seen that they were diseased. The arachnoid was markedly thickened and there were yellowish flecks of exudate lying beneath its surface. A piece of tissue was removed for biopsy and the operative wound closed. The pathological examination of the material removed at operation showed an inflammatory reaction with many giant cells. The spinal fluid was then cultured for M. Tuberculosum and Torula Histolytica. On the 12th post-operative day a growth of Torula was obtained.

A review of the literature revealed nothing in the way of therapy except that *in vitro* acroflavine showed a strong inhibitory action on Torula. Therefore this drug was administered intrathecally. The patient, nevertheless, continued his downhill course and died on the 18th post-operative day, February 16, 1941. The duration of life after the onset of the first definite symptom was two and one-half months. Unfortunately no autopsy was permitted. It was considered however that the diagnosis had been confirmed by the biopsy plus the positive culture.

Summary

A case of Torula Meningoencephalitis is presented. The simulation of brain tumor is most striking. This report will serve as a reminder that in spite of the many recent advances the diagnosis of intracranial pathology still presents many pitfalls.

Reference

1. Torula meningoencephalitis; report of a case; observation of the cerebrospinal fluid. Stiles, W. W. and Curtis, A. N.—J. A. M. A. 116: 1633 (April 12) 1941.

OVARIAN PREGNANCY
CASE REPORT

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Extra-uterine or ectopic pregnancy may be defined as that condition which arises when a fecundated ovum lodges and imbeds itself in any situation outside the cavity of the uterus, nidation proceeding in the aberrant site for a variable period.

There are several well differentiated varieties of this lesion as the ovum is arrested and develops in one or another site, the varieties being marked by differences in physical signs, symptoms, in termination and in results, as well as the varying relactions of the tissues, in which such abnormal implantation occurs, to the presence of trophoplastic activity.

Extra-uterine pregnancy being solely a disease of the childbearing period, its age incidence is necessarily limited. The most frequent age for the development of ectopic gestation then, is the decade between 24 and 33 years, and as most American girls marry in the early twenties, it follows that the majority of these cases occur within the first ten years of married life. This fact is significant, in view of the commonly repeated statement that extra-uterine pregnancy occurs most commonly after a prolonged period of sterility, or at least of unfruitfulness.

An ovum may be arrested anywhere in its passage from the ovary to the uterine cavity, and may imbed in any portion of the genital tract distal to this cavity; hence the several varieties of ectopic gestation are to be considered solely in relation to that portion of the genital tract in which the aberrantly situated ovum imbeds and develops.

This classification is based upon the original point of implantation of the fertilized ovum. Beginning at the uterus, there may be a corneal, interstitial, or apical pregnancy when growth of the implanted ovum proceeds within the thickness of the uterine wall in the tubal lumen; isthmial when the arrest takes place in the constricted isthmus of the tube; ampullar when embryological development goes on in the expanded, trumpet shaped ampulla of the tube; tubo-ovarian when the abnormal site is at the fimbriated extremity of the tube, which in this case is attached to the ovary by preexisting adhesions. Ovarian pregnancy, the rarest of the primary forms, occurs when the ovum is fertilized without having been extruded from the graafian follicle, the development continuing within the cortex of the ovary.

This rare and interesting variety of ectopic gestation has not been reported in sufficient number to formulate any specific cause, histologically demonstrable. It is believed that, after fertilization, the ohagocytic ovum may burrow into another or deeper portion of the ovary.

It has been stated that ovarian is the rarest form of ectopic pregnancy, except perhaps the cervical variety, which is almost unique. Norris in 1909 reported 19 positive cases of ovarian pregnancy in the literature, when all those which did not comply with all the criteria of this form of gestation were excluded. Lockyer has surveyed the literature from 1909 to 1917, and finds during this interval 22 genuine cases, making a total of 42; since 1917 there have been reported three additional cases, making a total of 45 to date.

Certain established conditions must be fulfilled, if the specimen in question is to be regarded as one of proven, primary ovarian gestation:

1) the tube on the affected side must be intact

2) the fetal sac must occupy the position of the ovary

3) it must be connected with the uterus by the utero-ovarian ligament

4) definite ovarian tissue should be found in the sac wall.

Placentation in ovarian pregnancy probably follows the same course as in uterine or tubal pregnancy, except that the greater vascularity of the oyum permits of more complete placental attachment and a consequent more definite blood supply to the ovum. As to the formation of decidua in the ovary, while the question cannot be said to have been absolutely determined, the views of nearly all of those who have recently studied this matter coincide in the belief that in the ovary, as in the tube, no true decidual reaction takes place, but that there

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is formed a tissue consisting of fibrin, lutein cells and masses of trophoblast, which may be termed a pseudo-decidua and which is the expression of the reaction of the ovarian tissue to the irritation produced by the erosive action of the trophoblast.

The duration of ovarian pregnancy is in the main longer than that of the tubal variety by reason of the different nature of the tissues enclosing the embryonal sac. The ovary is far more elastic and resilient than the tube, as evidenced by its distention in cases of dermoid cysts. The substance of the ovary is also so much thicker than the tube wall that penetration of the former by chorionic villi is most improbable, while in the latter it is the rule. These facts account for the longer duration of ovarian pregnancy, many of them, indeed, going to term. When rupture of an ovarian pregnancy occurs, it is occasioned in the same way as in tubal pregnancy—the invasion of the cyncytium into blood vessels may cause intracapsular or extracapsular bleeding or the sac may become thinner and no longer able to resist the increasing pressure of the growing ovum. The intraperitoneal bleeding may be very slight, or, as in ruptured tubal pregnancy, severe. In the former instance the process may go on to resolution or undergo inflammatory change, in the latter, a sudden dramatic intraperitoneal and death may ensue.

Ovarian pregnancy presents no feature which permits its diagnosis before rupture of the gestation sac, nor are there any distinctive signs after rupture which serve to differentiate it from other forms of extrauterine pregnancy. Diagnosis is only to be reached, after removal of the specimen, by the most thorough and painstaking microscopic and gross examination.

I should like to report a case of true ovarian pregnancy at this time. Mrs. H. W., a para 11, age 33, white female, consulted a local physician October 24, 1940. Her last menstrual period was August 26, 1940, establishing expected confinement June 2, 1941. The pelvic measurements were normal; blood pressure 120/70, weight 152½; urine was normal. Her last confinement was sixteen years ago when she had a forceps delivery of a live male child. Eight years ago she had a cauterization of the cervix for vaginal discharge and low back pain. She has been in good health until the present pregnancy.

On November 26, 1940, the patient again consulted her physician. The blood pressure was 124/60, the weight 151. Bimanual examination was apparently normal except for marked discomfort during pelvic examination. There was a history of a little brown staining during the past week but none was found during the examination. The patient complained of lower abdominal pain, more of a bearing down pressure. There had been some nausea but no vomiting.

On November 29, 1940, I was called to visit the patient at her home and was asked to take over the case because her present physician was leaving the city for postgraduate instruction. At this time the patient complained of some lower abdominal pain with constipation and was advised accordingly. Three days later, on December 2, I was again called to the house and found the patient constipated and vomiting. Immediate hospitalization was advised because of the vomiting.

On admission to the hospital, the temperature was 99.6, the urine normal; the blood count, red blood cells 3,900,000, hemoglobin 70%, leucocytes 8800 with 68% polys. Physical examination disclosed blood pressure 130/80. The abdomen was moderately distended with tenderness in the left lower quadrant. Pelvic examination disclosed a lacerated cervix with a fullness in the cul-de-sac—the fundus could not be made out as to size and position. The patient responded well to simple therapy. She was seen in consultation with her physician who had not as yet left for postgraduate training with the conclusion that she was an apprehensive patient with pressure symptoms. She left the hospital feeling well on December 5, 1940. On December 18 she came to my office feeling well except for some lower abdominal pressure symptoms.

January 6, 1941, I was again called to the home and again found the patient moderately distended with tenderness in the lower abdomen and some vomiting. She was again hospitalized. At this time the temperature was 99.2, red blood cells 3,100,000, hemoglobin 62%, white blood cells 10,800 with 89% polys; the blood pressure was 120/76. Gastric lavage was done and the patient felt much better. Physical examination at this time showed the abdomen moderately distended, tenderness in the lower abdomen, more in the left lower quadrant. Pelvic

examination revealed the fundus to be about four months pregnant; there was marked tenderness in the posterior cul-de-sac with tenderness on motion of the cervix—no discharge or bleeding. It was thought that a small ovarian cyst might have ruptured. The patient became progressively better each day so that on the third day after admission the red blood cells were 3,320,000, hemoglobin 64%, white blood cells 8,000 with 75% polys; sedimentation rate 22 mm. per hour.

On the evening of the third day an enema was given because of the constipation and distention. Approximately thirty minutes later the patient suddenly went into shock and died before any further help could be offered. At this time it was thought that we had been dealing with an abdominal pregnancy which had ruptured.

An autopsy disclosed the following:—The peritoneal cavity contained one and a half liters of blood. A large mass presented itself in the midline with a fetus attached by the cord to the implanted placenta, the fetus having been exruded through a perforation of the mass which was in reality the right ovary. The right tube was plastered on the ovary posteriorly. The uterus itself was not enlarged and was pushed down, together with the left adnexa, into the left pelvic quadrant. The pelvic organs were removed in toto. Final examination revealed an ovarian pregnancy of four and a half months which had ruptured, extruding the fetus into the peritoneal cavity. The placenta was attached entirely to the ovary.

THE NEEDS OF THE CARDIAC CHILD

One type of crippled and handicapped child has been much neglected and, as his disease has inevitably produced isolation, this child has been forgotten. This refers to the rheumatic child with permanent heart damage and to the less common one handicapped by congenital heart disease. This type of patient is called the cardiac child.

How easily, in the early years of practice, the young physician hopelessly shakes his head when he, in making his round of duty, encounters the young girl or boy, often entering the early years of adolescence suffering from rheumatic heart disease, offers a poor prognosis and passes upon his way. Yet how often in the accumulation of years of experience the older physician has watched such children suffer for weeks and months with cardiac pain and distress and then has seen them weather the storm of many years of invalidism, acute illness, contagious disease or other accident to emerge as fairly healthy members of a community and live a happy and profitable life. Those who do not succumb to their heart affliction in the early years of their life should never be given up as hopelessly lost.

Rheumatic fever may rightly be called the scourge of childhood. Of all the patients admitted to the wards of our hospitals the suffering of this group is the keenest, their disease the most protracted and damaging to the heart. Respiratory disease, which so often stimulates a recurrence of the rheumatic infection, takes a large toll of life of these children. In addition, periods of broken heart compensation produce death or irreparable damage to the heart.

Programs for the care of these children are already in operation in some states and it is hoped that, in the near future, Rhode Island may be able to offer help to them.

A tentative program for care of the cardiac child should include:—

1. Hospitalization for the duration of the acute rheumatic and cardiac symptoms. Cost $5 to $6.50 per day.

2. Care in a convalescent hospital until the temperature, blood count and sedimentation rate have become normal. At present the Crawford Allen Hospital and the Lakeside Home will provide such care for these children. Cost $1.50 to $3.50 per day.

3. Home Care. During the convalescent period, if home conditions are suitable, parents should assume responsibility for the patient. Isolation is important because of the detrimental effect of respiratory infection. If the child happens to be a member of a small family with other well managed siblings the child's own home may provide the proper place for after care. If, on the other hand, there are other small children who are poorly managed with resultant confusion in the household, and, particularly if these children are susceptible to respiratory infections, the foster home is advisable. Life in a foster home with a small family is to be preferred if there are many disturbing elements in the child's own home. Isolation of these patients is

important although the experiment in recent years of giving sulfanilamide throughout the winter, to lessen the incidence of colds, has been tried successfully. Occasional white blood counts have been necessary with these children. Cost in foster home $1 to $2 per day.

4. Medical Care. This must be delegated to competent internes and pediatricians. The frequency of their visits should be judged by the physician and the attending nurse and should be under the control of administrative headquarters. A fee should be paid to the physicians for these visits. Further, it may be deemed advisable for a part time technician to make blood counts or sedimentation tests occasionally.

5. Nursing Care. After the child has left the hospital or convalescent home expert nursing care to regulate his life is most essential. Co-operation of the local visiting nursing association, school nurses, and state public health nurses must be secured. The work delegated to these nurses will depend somewhat upon the geographical location of the child. The number and frequency of these nursing visits would naturally be regulated by the severity of the illness.

6. Sociological Care. Each patient should be tutored during the period of convalescence. A paid social worker should make such arrangements with local school authorities, unless the family finances are sufficient to provide for this item.

The social worker should further, in co-operation with nurse and doctor, provide a pleasant home atmosphere for the patient. The child's interest in his own condition should be stimulated; he should be encouraged to bear some responsibility for his future health and he must be taught the dangers of extraneous infection. In some instances clubs have been formed with these children as members; letters have been written from one to the other in their homes, books exchanged and small papers have been published with members contributing articles of interest. Such forms of entertainment shorten the long day and tend to make these little sufferers akin to each other.

Administration of the Program

Such a program as outlined must be conducted with the aid of federal funds, state funds, or those provided by a state-wide subscription canvass.

Under government subsidy the administration should be placed under the department of Crippled Children or under the jurisdiction of the Rhode Island Bureau of Child Health, a subsidiary of the Rhode Island State Health Department. Even though some states have already been able to secure federal grants it is doubtful if, at present, with such enormous expenditures for national defense, funds can be obtained for such a program of constructive health.

Under state aid or even if the program is carried out by public subscription it still might be supervised by one of the above departments. If such a program could be launched by public subscription, when war with its terrific expenses has passed into history, it is more than possible that federal funds might be obtained by co-operation of the U. S. Child Health Bureau which would naturally expect the program to function through state health department channels. One assistant to the head of the department of Crippled Children or the Child Health Bureau would probably be essential. The Rhode Island State Health Department has already had several conferences with representatives of the Federal Child Health Bureau. The Children's Heart Committee has done much constructive work on such a program, with special emphasis on the development of convalescent homes. The Child Health Relations Committee of the Rhode Island Medical Society in co-operation with the American Academy of Pediatrics is devoting much effort to the program.

That there is ample need for a program devoted to the care of the cardiac child in this state there can be no question. Extensive investigations by the heads of the social services of our hospitals have been undertaken. The number of children found requiring both medical and nursing care has been enlightening. With the able assistance of these social workers the program once instituted would probably reveal many cases in isolated districts hitherto not added to the already rather imposing list of those who would benefit from such a program. As with all such medical ventures, their potentialities are not fully appreciated until the program has been well started, when lead after lead always throws light upon the future possibilities of such work. The cardiac child, if he is to lead a life beneficial to himself and the community, needs our care and attention.

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Child Health Relations Committee
Rhode Island Medical Society

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Midwinter Meeting

A joint meeting of the Rhode Island Medical Society with the Providence Medical Association will be held at the Medical Library Building on the evening of Monday, February 2, 1942.

AMERICAN COLLEGE OF PHYSICIANS

Providence Meeting

Preliminary plans for the New England Sectional Meeting of the American College of Physicians to be held at Providence, R. I., on Wednesday, January 14, 1942, have been announced by Alex M. Burgess, M.D., Rhode Island Governor of the College. In the morning, from 10 until 12, clinical sessions will be held at the Peter's House at Rhode Island Hospital under the supervision of Charles F. Gormly, M.D., general chairman of the local group planning the meeting, and at noon luncheon will be served at the hospital.

The afternoon will be devoted to scientific discussions at the auditorium of the Rhode Island Medical Library, with the presentation of papers by outstanding members of the College in New England from 2 to 5 p. m. The day's program will be concluded with a dinner at the Squantum Club at 6:30 P. M.

The local Committee in charge of the meeting, in addition to Drs. A. M. Burgess and C. F. Gormly, includes Dr. William S. Streker, Dr. Elihu S. Wing, and Dr. John F. Kenney.

THE NATIONAL PHYSICIANS' COMMITTEE

ACCOMPLISHMENT

In October, 1939, the first letters and literature were mailed to physicians from the offices of the National Physicians' Committee. At that time the Wagner National Health Bill was before the Senate sub-committee on Education and Labor; the American Medical Association was awaiting trial in a Federal Court; five officers of the American Medical Association and fourteen physicians of Washington, D. C. were under Federal Grand Jury indictment for criminal conspiracy to restrain trade. A powerful lobby, with professional workers and powerful friends at court, was active at Washington and in state capitals, working for the socialization of medical practice with the benefit of Federal Funds. The proposals were to revolutionize the practice of medicine, placing the distribution of medical care in the hands of laymen or lay groups.

The objects of the National Physicians' Committee are to impress the profession with the importance of the basic issues, to educate the public to an understanding of the executive results of our system of medical practice, and to promote extension of the distribution of efficient medical care. An intensive educational program has been carried on by letters to the profession, distribution of pamphlets, articles in medical magazines and in the press.

Local medical societies have organized many projects for providing medical care for patients in the low income group on a prepayment basis. These efforts have already succeeded in providing better medical care for many thousands of patients who were neglected except for the work of free clinics. Of even greater importance, the medical profession is alive to its responsibility to provide the best possible medical care at the lowest possible cost.

The present emergency has aided the work of the National Physicians' Committee. An individual may trust his minor complaints to an irregular practitioner, a technician or a social worker, but when he has a real pain he wants the best medical attention in a hurry. In the present crisis there is no call for the irregulars but an insistent demand for medical graduates. In the Selective Service alone

many thousand American physicians are performing invaluable service and without remuneration. Of their work General Hershey says, "We have got something far beyond what you can hire at the wages we would expect to pay."

But when this emergency is over the campaign for socialized medicine under lay control may regain its delayed impetus. Then the work of the National Physicians' Committee will again prove its value in preservation of the ideals of American Medicine.

Report on the status of medicine and the operation of the National Physcians' Committee, October 17, 1941.

Medicine and selective service. Lewis B. Hershey, Director of the Selective Service System. The Journal A.M.A., 117: 22, 1894, Nov. 29, 1941.

CIVILIAN DEFENSE

October 27, 1941

Advanced First Aid for Civilian Defense

The U. S. Director of Civilian Defense has urged all communities to spread knowledge of first aid as widely as possible among the people. Competent instructors qualified by the American Red Cross are required for training Civilian Defense workers, employees of industrial plants, business establishments and Government bureaus. For this purpose, physicians should register as instructors with the local Red Cross Chapter and should employ the "Instructor's Outline" for the standard course (20 hours), prepared by the American National Red Cross in collaboration with the Medical Division of the Office of Civilian Defense and published by the American Red Cross. Upon completion of this course, participants will be entitled to receive the First Aid Certificate of the Red Cross and be authorized to wear the appropriate insigne.

The booklet entitled "Advanced First Aid for Civilian Defense," prepared by the American National Red Cross in collaboration with the Medical Division of the Office of Civilian Defense and published by the American Red Cross, is intended for the first aid instruction of the medical and nursing personnel of Emergency Medical Field Units and for the training of Air Raid Wardens and members of other enrolled groups of the Citizen's Defense Corps.

Physicians who are members of Emergency Medical Field Units should familiarize themselves with the first aid methods outlined in this booklet. They should register in the local Red Cross Chapter so that they may serve as instructors to both student and graduate nurses as well as Nurses' Aides and other non-professional members of their Unit and other hospital employees. These 5 two-hour lessons will not provide non-medical Civilian Defense workers with adequate training and experience in the skillful application of first aid procedures. They are intended to supply minimum instruction which must be followed by repeated drilling under competent supervision.

Because of the exacting training requirements for certain enrolled groups of the Citizen's Defense Corps, this 10-hour course, "Advanced First Aid for Civilian Defense," may be interpolated in their instructional curriculum with the understanding that it will be supplemented subsequently by additional first aid training as required for others who have not had previous experience.

Additional copies of "Advanced First Aid for Civilian Defense" are obtainable for free distribution by application to the Regional Director or Regional Medical Officer in your Civilian Defense Region. For copies of the "Instructor's Outline" (20 hour course), applications should be addressed to the local Red Cross Chapter.

George Baehr, M.D.,
Chief Medical Officer.

October 29, 1941

Duties of the Local Chief of Emergency Medical Services

In order to expedite the organization of the Emergency Medical Services and provide for their effective administration, it is important that each local Civilian Defense Council appoint without delay a local Chief of Emergency Medical Services. He should be an outstanding medical leader and should be selected in consultation with the State Defense Council, the local Medical Society, and the local Health Officer. To facilitate the integration of all local medical resources into a comprehensive program for civilian protection, the local Chief of Emergency Medical Services should be assisted by a Medical Advisory Council, consisting of the local Health Officer, an experienced

hospital executive, and representatives of the local Medical Society, the local nursing profession, the American Red Cross, and any participating voluntary agencies.

Under the administrative authority of the local Director of Civilian Defense the duties of the local Chief of Emergency Medical Services are:

1. To determine the scope of the activities of all official and voluntary organizations which are to participate in the emergency medical program of civilian defense, to integrate these organizations into the comprehensive local program, and to assist them in expanding their activities to the limit of their resources in personnel and equipment.

2. To assist hospitals in the locality to organize, equip and train Emergency Medical Field Units as outlined in Medical Division Bulletin No. 1, "Emergency Medical Service for Civilian Defense."

3. To inspect and select sites for the establishment of Casualty Stations.

4. To make a spot map of the locality, indicating the locations of hospitals, appropriate sites for Casualty Stations, depots for storage of stretchers, blankets and collapsible cots, and the locations of rescue squads. The map should indicate the number of Emergency Medical Squads in each hospital. Copies of the map should be supplied to Control Centers, Police and Fire Departments, Health Department, local Red Cross Chapter, State Defense Council, Regional Director, Regional Medical Officer and to all cooperating hospitals.

5. To plan and establish adequate transportation service for casualties and medical personnel in consultation with local government departments, American Red Cross and voluntary agencies.

6. To arrange with the local Control Authority for field drills of Emergency Medical Units and Rescue Squads in collaboration with police and fire auxiliaries, disaster relief and canteen services of the American Red Cross, ambulance transport service and other civilian defense units and to supervise such drills.

7. To make an inventory of hospital beds in the locality and of the possibilities for emergency expansion in bed capacity.

8. To assist the authorities charged with preparing plans for evacuation in making an inventory of hospitals, convalescent homes, sanatoria, hotels and other structures within a radius of 50 to 100 miles which might be used as base hospitals to which patients in city institutions could be evacuated.

9. To assist the local Central Volunteer Bureau in establishing courses for volunteers in the field of health, medical care, nursing and related activities.

10. To stimulate recruitment of volunteers for Nurses' Aide courses of the American Red Cross, assist the local Red Cross chapter in establishing Training Centers for Volunteer Nurses' Aides at appropriate hospitals and assist the Red Cross placement bureau in placing Nurses' Aides with hospitals, clinics, health departments and field nursing services after completion of training.

11. To stimulate and guide extension of First Aid training courses as widely as possible among the local population through the American Red Cross and other official and voluntary agencies.

12. To stimulate and guide industrial plants, business establishments and government bureaus in the locality in the training and organization of effective First Aid Detachments among the employees.

13. To collaborate with state and local health departments and through them with the Regional Sanitary Engineer in a comprehensive program for the protection of the community against emergency sanitation hazards.

14. To collaborate with local and State Defense Councils, Office of Civilian Defense, Federal Security Agency, Children's Bureau and other local, State and Federal authorities in the preparation of plans for evacuation, with particular attention to the medical needs of the population under such circumstances.

15. To keep the community and particularly the members of the health and medical professions and the participating official and voluntary organizations informed of the plans and activities of the local Emergency Medical Services.

George Baehr, M.D.,
Chief Medical Officer.

December 1, 1941

The national emergency has brought about a shortage of nurses in hospitals, clinics, public health and field nursing agencies. To relieve this situation, which is likely to grow more acute with the expansion of military establishments and of plans for civilian defense, the American National Red Cross and the Office of Civilian Defense have jointly undertaken a project to train volunteer nurses' aides. With such assistance, graduate nurses may extend their services to many more persons. The volunteer aides will work under supervision of a nurse and are being trained for certain non-technical tasks in order that graduate nurses may be released for the highly technical duties they alone are qualified to perform.

The local chief of Emergency Medical Service and the local Office of Civilian Defense in communities where the training program is undertaken have definite responsibilities listed as follows by the national headquarters of the Office of Civilian Defense:

1. To assist the Red Cross and the Civilian Defense Volunteer Office in recruiting and enrolling desirable applicants for training.
2. To assist local chapters to conclude arrangements with appropriate general hospitals to serve as training centers.
3. To assist the Red Cross in organizing and maintaining a placement service so that Volunteer Nurses' Aides may continue to serve and to accumulate experience.
4. To reassign Volunteer Nurses' Aides to emergency duty if the need should arise.

The Red Cross, in collaboration with the Medical Division of the Office of Civilian Defense, has revised its standard course of instruction for Volunteer Nurses' Aides with reference to needs that may develop during the period of the national emergency. The standard course was instituted in July 1940, an outgrowth of volunteer services that have been sponsored by the Red Cross since World War I.

The first half of the course, consisting of lectures and demonstrations, is given in a Red Cross chapter house or some other suitable place. The second half is to be given in a hospital selected by the Red Cross and the Office of Civilian Defense as a training center under strict supervision.

Nurses' aides are to work under supervision of a nurse at all times, never independently, the instructions point out. Moreover, they must agree to serve without remuneration and in time of national peril must be prepared to serve whenever and for as long as period as needed.

Authorized duties for the nurses' aides have been outlined in the Red Cross publication "Chapter Organization and Administration of Red Cross Volunteer Nurses' Aide Corps." These duties are of course subject to approval of individual institutions.

In hospitals they may, among other activities, make beds, take care of personal belongings of patients, take care of rubber goods, clean dressing trays, take care of linen closets, feed helpless patients, take patients to and from treatment rooms, help with admission and discharge of patients and care for ambulatory patients. In dispensaries and clinics the aides may serve as interpreters in foreign languages, interpret clinic rules and instructions to patients, help weigh and measure, undress and dress children, assist in taking physicians' notes, help with inventories, clean and put away instruments and help put rooms in order after clinics.

In community health agencies the aides may perform whatever nursing duties are approved by the organization for which they work, provided these duties are performed under the direct supervision of a nurse.

AMERICAN MEDICAL ASSOCIATION BROADCASTS

Doctors at Work, the dramatized radio program broadcast by the American Medical Association and the National Broadcasting Company will go on the air for its second season beginning December 6, 1941, from 5:30 to 6:00 P. M., Eastern Standard time. The program will be broadcast on WJAR and upwards of seventy-five stations affiliated with the Red Network of the National Broadcasting Company and will be heard from coast to coast.

Doctors at Work, a successful, serialized story broadcast last year dealt with the experiences of a fictitious but typical American boy choosing medicine for his vocation and proceeding to acquire the necessary education and hospital training for the private practice of medicine. Interwoven with the personal story of young Doctor Tom Riggs and

his fiancee, Alice Adams, was the romance of modern medicine and how it benefits the doctor's patients.

The new series of broadcasts will resume where last year's story left off, namely, with the marriage of Tom Riggs and Alice Adams, and the subsequent life of a young doctor and his wife in time of National Emergency in a typical, medium-sized, American City.

The program will be produced under the supervision of the Bureau of Health Education, of the American Medical Association, W. W. Bauer, M.D., Director. Scripts will be by William J. Murphy of the National Broadcasting Company, author of such successful radio productions as "Flying Time," "Cameos of New Orleans," "Your Health," "Medicine in the News" and last year's "Doctors at Work." The scripts will again be produced by J. Clinton Stanley and the National Broadcasting Company orchestra will be under the direction of Joseph Ballichio as herctofore. Actors will be drawn from the well-known group of Chicago radio actors previously heard in American Medical Association and other successful broadcasts.

OBITUARY

JOHN T. FARRELL, M.D.

Dr. John Thompson Farrell, long a practising physician in this city, died October 13, 1941 at his home, Providence street, West Warwick, after a brief illness.

He was born in Webster, Mass., September 11, 1858, the oldest of five sons of the late Thomas L. and Catherine (Thompson) Farrell.

He received his medical degree from Jefferson Medical School, Philadelphia, in 1886, and later did postgraduate work in dermatology and roentgeneology in Paris, Leipzig and Vienna, as well as at Harvard Medical School and the Boston City Hospital.

He organized the department of dermatology at St. Joseph's Hospital in 1906, and was dermatologist and radiologist there until 1923. He was also physician at St. Vincent de Paul Infant Asylum and St. Aloysius Home, and a member of the consulting staff of the Charles V. Chapin Hospital.

Dr. Farrell volunteered for service abroad during the World War, but on account of his age was named a member of the Volunteer Medical Service Corps.

He was a charter member of the New England Roentgen Ray Society and a former President of that Society. He was also a member of the American Medical Association, the Rhode Island Medical Society, and the Providence Medical Association, serving as President of the latter organization in 1913-1914.

He was a member of the Providence School Committee from 1902 to 1905.

He is survived by his wife, Mrs. Annie Goffe Peckham Farrell, formerly of Newport; three sons, Dr. John T. Farrell, Jr., of Philadelphia, Allan Farrell of Philadelphia, and Donald Farrell of West Warwick, and two daughters, Helen H. and Alice G. Farrell.

ROLAND HAMMOND, M.D.
ROSWELL S. WILCOX, M.D.

DR. O. FLETCHER BEST

Dr. O. Fletcher Best was born March 5, 1862, at Grafton, Nova Scotia. He was a graduate of Provincial Normal School in Nova Scotia and taught school in various places in Nova Scotia before taking up the study of medicine. He was a student of the Halifax Medical College, now known as the Dalhousie University, located in Halifax, Nova Scotia. From there he went to New York University Medical College from which he graduated in 1889.

He practised in Maine for several years. In 1900 he took up the study of diseases of the Eye, Ear, Nose and Throat at Knapps Memorial Hospital, New York City, becoming Resident Surgeon, and remaining there two years. He came to Providence, R. I., locating on Broad Street in 1902. He was a member of the A. M. A. and the Rhode Island Medical Association. He was a 32nd Degree Mason and a Rhode Island Chapter of Shriners Member, also.

During his early career as a specialist he had the privilege of showing Helen Keller and the late Alexander Graham Bell around his birthplace, Nova Scotia.

In 1887, Dr. Best married Bella L. Rockwell of Wolfville, Nova Scotia. One child, a daughter, was born to them, Gladys Payson Best, now Mrs. William B. Bailey. Dr. Best also leaves two grandchildren who live in Yarmouth, Nova Scotia, two

brothers, C. Woodworth Best of South Dakota, and Dr. Herbert H. Best of Pembroke, Maine, a sister, Mrs. Grant Foote of Grafton, Nova Scotia, and a nephew, Dr. Charles Best, professor of physiology, Toronto University, Canada, and co-discoverer of insulin with the late Sir Frederick Banting.

Dr. Best retired from active practice less than a ago. He had a winter home in Orlando, Florida, where he died August 3, 1941. Cause of death attributed to coronary disease.

Edwin G. Thompson, M.D.
N. Darrell Harvey, M.D.

RECENT BOOKS

The 1941 Year Book of General Medicine. Edited by George F. Dick, M.D., J. Burns Amberson, Jr., M.D., George A. Minot, M.D., S.D., F.R.C.P. (Edinburgh and London), William B. Castle, M.D., A.M., (Hon.) Utrect, William B. Stroud, M.D and George B. Eusterman, M.D., pp 848, with 176 illustrations, some in color, and many charts. Cloth, $3.00. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, 1941.

The forty-first Year Book of General Medicine presents the outstanding developments of the year. In infectious Diseases, a new rapid diagnostic method for virulence of the diphtheria bacillus, new data on intravenous vaccination against smallpox, new skin test for susceptibility to pertussis.

In Diseases of the Chest, first report of successful treatment of chronic bronchitis with vitamin B_1, dosage of cod liver oil and tomato juice in prophylaxis of intestinal tuberculosis, inhalation treatment of asthma, sulfadiazine treatment of pneumonia. In Diseases of the Blood, beef albumin as plasma substitute for transfusion, isinglass as transfusion fluid in hemorrhage, detection of infectious mononucleosis. In Diseases of the Heart, a symposium on coronary thrombosis.

The book is crowded with practical material of the greatest value to the busy practitioner.

Technique of Contraceptive Control. By Robert Latou Dickinson, M.D. and Woodbridge Edwards Morris, M.D., pp. 56, paper 50 cents, The Williams and Wilkins Company, Baltimore, 1941.

A practical manual issued by the Birth Control Federation of America, Inc. With a foreword by Nicholas J. Eastman, M.D., Obstetrician-in-Chief, Johns Hopkins Hospital, and a Note of Introduction by Richard N. Pierson, M.D., President of the Birth Control Federation of America, Inc. The work is distinguished by its 50 illustrations taken for the most part from Dr. Dickinson's monumental work, "Human Sex Anatomy."

Handbook of Communicable Diseases. By Franklin H. Top, A.B., M.D., M.P.H. pp. 682, with 73 text illustrations and 10 color plates. Cloth, $7.50, The C. V. Mosby Company, St. Louis, 1941.

In this encyclopedic volume, C. H. Binford, M.D., writes on Leprosy, Patience L. Clarke, R.N. on Nursing Care, Bruce H. Douglas, A.B., M.D. on Tuberculosis, Gordon B. Myers, A.B., M.D. on Pneumococcic Pneumonia, Laura E. Peck, R.N. on Communicable Diseases in the Home, George Sewell, M.D., F.A.C.S. on Gonorrhoea, and Loren W. Shaffer, B.S., M.D. on Syphilis, Chancroid and Lymphogranuloma venereum.

The communicable diseases have been classified by common portal of entry, a method which is different but which it is hoped will be helpful to the student. The importance of correct diagnosis is stressed throughout the work. Thirty-three charts in the appendix compare the initial with the final diagnosis of the cases admitted to the Herman Kiefer Hospital at Detroit from 1927 to 1936. A complete bibliography is broken down as references at the end of each chapter. Illustrations are notable for their excellence. This is a work of great value to the student, pediatrician, general practitioner and public health worker.

The Treatment of Infantile Paralysis in the Acute Stage. By Sister Elizabeth Kenny of Australia. pp. 285, with 70 illustrations, Cloth, $3.50, Bruce Publishing Company, Minneapolis and St. Paul, 1941.

The success of Sister Kenny's method of treating infantile paralysis has attracted the attention of medical men throughout the world. During the past two years she has demonstrated her work at the University of Minnesota Hospital and the General Hospital of Minneapolis, proving conclusively to prominent medical men that her method produces remarkable results.

The Kenny system avoids immobilization and treats symptoms as they arise during the acute stage. It aims at maintenance of the healthy condition of all tissues of the body, affected parts as well as unaffected both somatic and visceral, and reestablishment of normal nerve conduction paths and normal function of the affected parts.

A large part of the present book is given over to criticism of the orthodox methods of treatment.

The Kenney treatment has now been in use at the Minneapolis General Hospital for more than a year. On December 4 the National Foundation for Infantile Paralysis, at the annual meeting held in New York City, indorsed the treatment, and on the following day issued a statement urging the widespread use of the Kenny technique and suggesting that State and city health departments take steps toward training personnel in this system, which includes hot packs and delicate muscle manipulation rather than the use of the traditional splints.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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Scientific authorities in general agree that the constituent of cigarette smoke with the greatest physiologic significance is nicotine. Any reduction of this substance in a patient's smoking is considered desirable by most physicians.

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and the nicotine content of the smoke of Camels were compared to the averages of the other brands tested.

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*J.A.M.A., Vol. 93, No. 15, p. 1110, Oct. 12, 1929
Bruckner, Die Biochemie des Tabaks, 1936
**The Military Surgeon, Vol. 89, No. 1, p. 7, July, 1941

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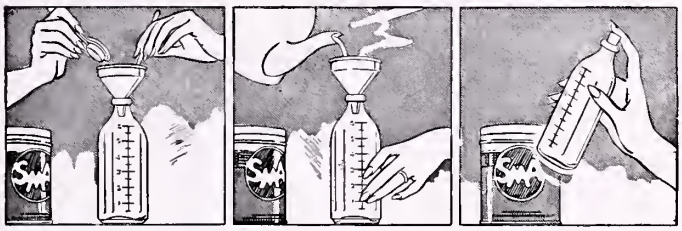

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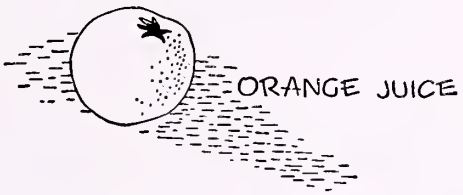

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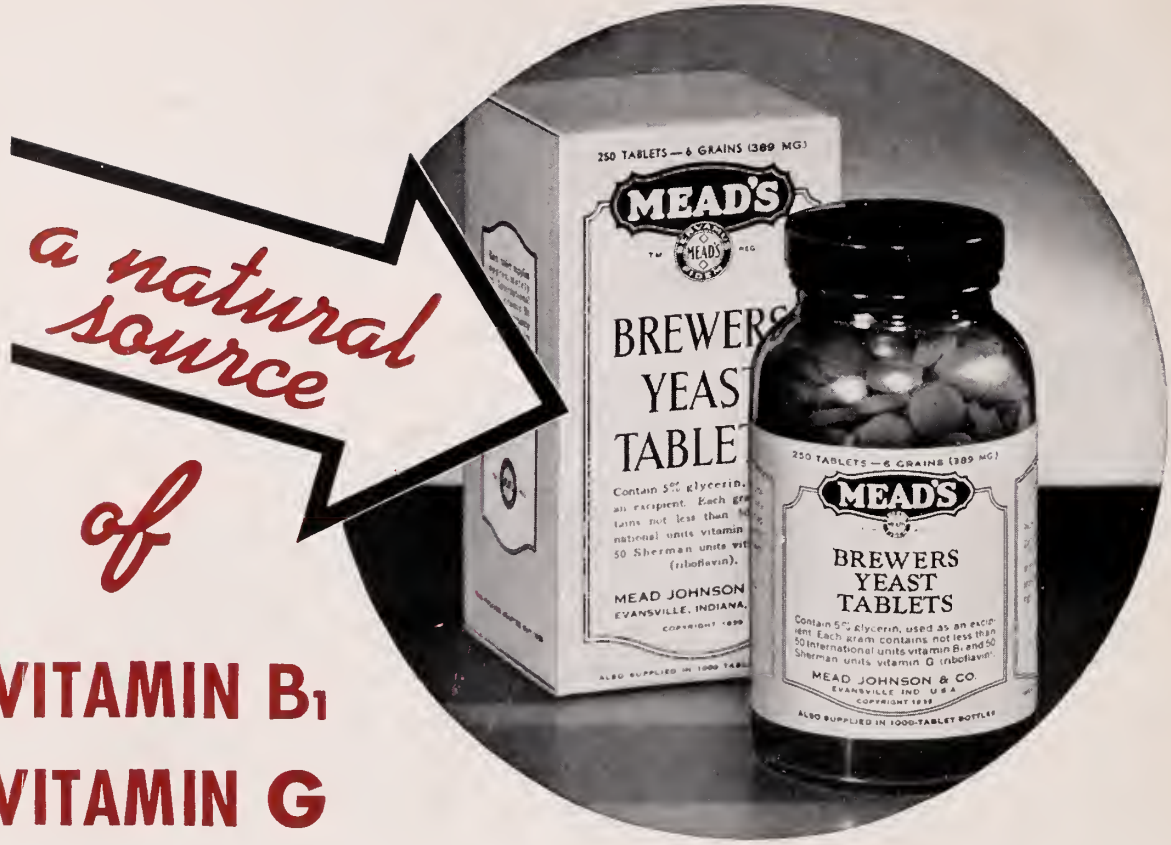

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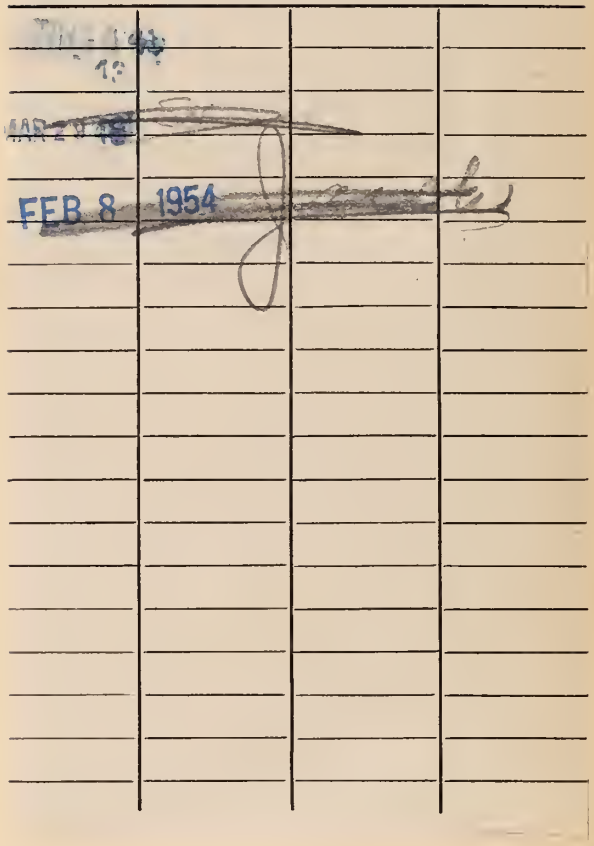
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